Facility Condition Assessment Summary Report

This report provides a summary of the Facility Condition Index (FCI) value of a school facility and select major building systems. The FCI calculation represents the cost of needed repairs divided by the replacement value. The FCI is a numerical value of condition and helps to identify the need for renewal or replacement of specific parts of the facility. The FCI is particularly useful when comparing similar facilities within the same portfolio.

Moffet School

Governance	DISTRICT	Report Type	Elementary
Address	127 W. Oxford St.	Enrollment	346
	Philadelphia, Pa 19122	Grade Range	'00-05'
Phone/Fax	215-291-4721 / 215-291-5190	Admissions Category	Neighborhood
Website	Www.Philasd.Org/Schools/Moffet	Turnaround Model	N/A

Building/System FCI Tiers

Facility Condition Index (FCI) = Cost of Assessed Deficiencies / Replacement Value

< 15%	15 to 25%	25 to 45%	45 to 60%	> 60%
Buildings				
Minimal Current Capital Funding Required	Refurbish Systems in building	Replace Systems in building.	Building should be considered for major renovation.	Building should be considered for closing/replacement.
Systems				
Perform routine maintenance on system	System requires minor repairs	System should be studied to determine repair vs. replacement.	System is nearing end of its life expectancy and should be considered for replacement	System should be replaced as part of the Capital Program

Building and Grounds

	FCI	Repair Costs	Replacement Cost
Overall	**47.29%**	**$10,264,764**	**$21,707,326**
Building	45.74 %	$9,312,367	$20,360,696
Grounds	70.72 %	$952,397	$1,346,630

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	89.52 %	$938,532	$1,048,352
Exterior Walls (Shows condition of the structural condition of the exterior facade)	00.00 %	$0	$1,476,400
Windows (Shows functionality of exterior windows)	130.04 %	$936,839	$720,400
Exterior Doors (Shows condition of exterior doors)	60.24 %	$34,936	$58,000
Interior Doors (Classroom doors)	09.80 %	$13,766	$140,400
Interior Walls (Paint and Finishes)	00.00 %	$0	$672,400
Plumbing Fixtures	11.21 %	$60,634	$540,800
Boilers	140.62 %	$1,050,122	$746,800
Chillers/Cooling Towers	69.34 %	$678,976	$979,200
Radiators/Unit Ventilators/HVAC	152.91 %	$2,629,506	$1,719,600
Heating/Cooling Controls	158.90 %	$858,081	$540,000
Electrical Service and Distribution	00.00 %	$0	$388,000
Lighting	40.94 %	$567,931	$1,387,200
Communications and Security (Cameras, Pa System and Fire Alarm)	09.62 %	$49,967	$519,600

Please note that some FCIs may be over 100% because there are times when replacing a building system requires that other building systems be upgraded to complete the installation. A FCI of 0.0% represents that there are no current deficiencies with the associated system.

School District of Philadelphia

S537001;Moffet

Final

Site Assessment Report

January 31, 2017

PARSONS

Table of Contents

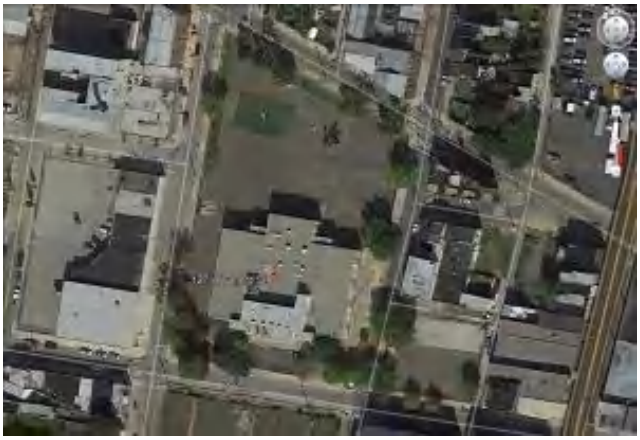
Site Executive Summary

The organization of this report, as displayed in the Table of Contents, follows the structure of the associated eCOMET database. The overall node for each school campus begins with the letter "S", which indicates the "Site" label. Each Site is comprised of separate "Building" and "Grounds" nodes; their asset names begin with the letters "B" and "G" respectively. Information rolls up to the Site node from the Building and Grounds nodes. This Site report combines facility information with subsections for the Buildings And Grounds nodes.

The basis for the evaluation of condition is the functional systems and elements of a building and grounds organized according to the UNIFORMAT II Elemental Classification. The grouping of these systems and elements and applying a current replacement value to them develops a representative building cost model. Cost Models are typically developed for similar building types and functions. Evaluation of systems and their elements takes into account their current replacement values, life cycles, installation dates and next renewal dates. Systems and their elements that are within their useful lives are further evaluated to identify current deficient conditions that may have a significant impact on a system's or element's remaining service life, and to determine if they are beyond their predicted expected life. The system's or element's current replacement value is based on RS Means Commercial Cost Data.

Following are the cost model's system details for this facility. The Replacement Value is the amount needed to replace the property of the same present value. The Current Repair Amount, also known as Condition Needs, represents the budgeted contractor installed costs plus owner's soft costs for the repair, replacement or renewal for a component or system level deficiency. It excludes contributing costs for other components or systems that might also be associated with the corrective actions due to packaging the work. Facility Condition Index (FCI) is an industry-standard measurement calculated as the ratio of the repair costs to correct a facility's deficiencies to the facility's Current Replacement Value. Condition Index (CI) for a system is calculated as the sum of a the deficiencies divided by the sum of a system's Replacement Value (both values include soft-cost) expressed as a percentage ranging from 0% 100%.

Gross Area (SF):	40,000
Year Built:	1973
Last Renovation:	
Replacement Value:	$21,707,326
Repair Cost:	$10,264,764.05
Total FCI:	47.29 %
Total RSLI:	82.13 %



Description:

Facility Assessment, July 2015

School District of Philadelphia

Moffet School

127 W. Oxford St.

Philadelphia, PA 19122

40,000 SF / 417 Students / LN 03

The Morris Elementary school building is located at 127 W. Oxford St. in Philadelphia, PA. The 2 story with mechanical penthouse, approximately 40,000 square foot building was originally constructed in 1973.

Mr. Derek Parker, Facility Area Coordinator provided input to the Parsons assessment team on current problems and planned renovation projects. Mr. David Stone, building engineer, accompanied us on our tour of the school and provided limited information on

the building systems and recent maintenance history.

STRUCTURAL/ EXTERIOR CLOSURE:

The original building typically rests on concrete foundations and concrete bearing walls that are not showing signs of settlement. There are no signs of moisture penetration through foundation walls

The main structure consists typically of precast concrete columns, beams and double-T precast concrete floors. The roof structure consists of double-T precast slabs supported by precast superstructure. Some minor structural elements are cast-in-place concrete. The superstructure is in good condition.

The building envelope is typically face brick masonry with CMU backup. Precast concrete wall panels are accenting small windows. Mechanical penthouse is clad with prefinished, insulated metal panels with prefinished metal liners. There is no water penetration through walls.

The windows are original extruded aluminum double hung windows double glazed insulated glass and security screens. All windows are generally in good condition with some security screens damaged.

The exterior doors are typically hollow metal doors and frames, painted. The doors are generally in fair condition; no weather-stripping is installed. The loading dock is equipped with overhead roll-up, manually operated doors in fair condition.

Roofing system is a built-up system approximately 15 to 20 years old and in fair condition with external insulating panels above it (outsulation); all roofing and flashing is typically in fair condition with some deterioration of the built-up system and insulation panels; leaks have not been reported.

INTERIORS:

The building partition wall types include painted CMU. Partitions are generally in good condition.

Interior doors are generally solid core wood doors, some glazed, in hollow metal frames. The doors leading to exits and stairway are hollow metal doors and frames with wire glass vision panes, in good condition.

Fittings include toilet accessories and toilet partitions, generally in fair condition, no accessible compartments; chalkboards, in good condition. Handrails are generally in good condition. Built-in cabinets are steel, in good condition. Interior identifying signage is typically directly painted on wall or door surfaces generally in good condition.

The interior wall finishes are mostly painted CMU. Generally, paint is in good condition throughout the building.

Most ceilings in the original building are 2x4 suspended acoustical panels in fair condition. The suspension system and tiles are approaching the end of their useful life. Auditorium is equipped with suspended acoustical baffles in good condition.

Flooring in most spaces is VCT in good condition; and ceramic tile with glazed CMU base in toilets. Most flooring is in fair to good condition. Library and principal's office has carpet in good condition.

Stair construction is generally steel stringers and risers with steel pan concrete treads. Treads are fitted with extruded aluminum non-slip nosings. Stairs are generally in good condition.

Institutional and Commercial equipment includes stage equipment, generally in good condition; A/V equipment in very good condition; gym equipment – basketball backstops, scoreboards, etc.; generally in fair condition. Other equipment includes kitchen equipment, generally in good condition. Vehicular equipment includes loading dock bumpers, severely damaged.

Furnishings include fixed casework in classrooms, corridors and library, generally in fair to good condition; window shades/blinds, generally in good condition; fixed auditorium seating is original, generally in fair condition.

CONVEYING SYSTEMS:

The building has a 2,500 lb hydraulic elevator serving two floors and the penthouse; generally in good condition.

PLUMBING:

Plumbing Fixtures - Many of the original plumbing fixtures remain in service. Fixtures in the restrooms on each floor consist of both floor and wall mounted flush valve water closets, wall hung urinals and lavatories with wheel handle faucets. The units appear to be in good condition and should be provide reliable service for the next 5-10 years.

Drinking fountains in the corridors and at the restrooms consist of wall hung fixtures with integral refrigerated coolers or wall hung porcelain fixtures. Both types are well beyond their service life and should be replaced; most are NOT accessible type.

A service sink is available in a janitor closet in the corridor on each floor for use by the janitorial staff.

Domestic Water Distribution - A 5" city water service enters the building from W. Oxford Street near the intersection with N. Mascher Street. The 4" meter and valves are located in the elevator machine room. The original domestic hot and cold water distribution piping with copper piping and sweat fittings is still in service. The maintenance staff reports no significant problems with scale build up in the domestic piping and the supply is adequate to the fixtures.

Domestic hot water is produced via a steam to water heat exchanger in a vertical hot water storage tank. This system requires at least one boiler to be running for the building to have hot water. The tank and heat exchanger are most likely original to the building and beyond their service life. This system is inefficient, requiring the boilers to be run in the summer when they could be shut down. A new gas fired domestic hot water system with circulating pump should be installed to eliminate dependence on the boiler. A water softener located in the boiler room supplies conditioned water to the boilers.

Sanitary Waste - The original storm and sanitary sewer piping is heavy weight cast iron with hub and spigot fittings. Downspouts from the roof run down the interior of the building and connect to the storm sewer system below the building slab.

A small sewage ejector pit located in the elevator machine room receives water from three floor drains in that area. It has a single pump that has been in use for an unknown amount of time, but may be reaching the end of its service life.

The maintenance staff reported mostly minor problems with the sanitary waste piping systems. However, the sewer piping has been in service for nearly 45 years and will require more frequent attention from the maintenance staff as time passes. The District should hire a qualified contractor to examine the sanitary waste piping using video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.

Energy Supply - A 3" city gas service enters the building from W. Oxford Street near the intersection with N. Mascher Street. The meter is 2" and located in the in the elevator machine room.

A reserve oil supply is stored in a 12,000 gallon underground storage tank (UST). Oil is used as a backup fuel and the District receives credit from the gas utility as an interruptible service. The current supply has been in storage for some time and should be tested for quality on a regular schedule. USTs have an anticipated service life of 20 years.

MECHANICAL:

Heat Generating Systems - Low pressure steam is generated by two Weil-McLain cast iron sectional boilers original to the building, located in the penthouse boiler room. Each boiler is equipped with what looks like the original burner, designed to operate on natural gas or fuel oil. Combustion air makeup is supplied by louvers equipped with motorized dampers. Burner oil pumps are connected and driven by the fan motor, which is not allowed by current code. The gas train serving the building does not appear to have code required venting of the regulators and dual solenoid valves with venting of the chamber between. The Building Engineer reports the system loses a significant amount of condensate due to failed traps, which is made up with chemically treated city water. Cast iron sectional boilers have an anticipated service life of 35 years or more; these units have been in service approximately 45 years. The boilers appear to have been poorly maintained. The District should replace these boilers within the next 1-3 years.

One condensate receiver is installed in the elevator machine room to return condensate to the boiler room. Another condensate receiver is installed in the boiler room. The boiler feed pump and tank assembly is installed in the boiler room. Live steam passes into the condensate piping system from the failed traps and then vents from the condensate handling equipment when the system is run above 5 lbs/sq. in. The District has not conducted a steam trap survey for this building and traps are not serviced on a regular schedule.

Cooling Generating Systems - Chilled water is generated by one absorption chiller located in the boiler room with heat rejected by one Havens M46-200 galvanized cooling tower located on the roof. The manufacturer and model number were not visible on the chiller.

Absorption chillers have an anticipated service life of 30 years; this unit has been in service approximately 45 years and needs to be replaced. The building engineer reported an air leak in the chiller which requires the continuous running of a vacuum pump to keep the chiller operational. Galvanized cooling tower have an anticipated service life of 18 years; this unit has been in service approximately 45 years. The existing absorption chiller and cooling tower are beyond their service life and should be replaced with a new packaged roof top mounted air cooled chiller fitted with modern controls.

Distribution Systems - Steam piping is black steel (ASTM A53) with welded fittings. The condensate piping is Schedule 80 black steel with threaded fittings. Steam and condensate piping mains are located in the penthouse boiler room. The steam distribution piping is all located in the boiler room and has been in use beyond its service life and will require more frequent attention from the maintenance staff to address pipe/valve failures as time passes. The District should hire a qualified contractor to examine the steam and condensate piping and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures. The District should budget for replacing this piping over the next 10 years.

A two pipe distribution system supplies building heating or cooling water to the unit ventilators and two air handling units (AHU). There are two primary loop water pumps which can serve either the boilers or the chiller depending on valve configuration. There are two secondary loop water pumps which serve the hot/cold water distribution network. Two condenser water pumps serve the cooling tower and absorption chiller. All pumps appear to be original to the building, are beyond the anticipated service life of 25 years, and should be replaced.

Unit ventilators provide heating and cooling for the majority of classrooms, offices, and indirectly to the hallways. The unit ventilators are original to the building and are beyond their service life. Outdoor air for the building is provided by wall openings in the unit ventilators, which may not be sufficient to meet current codes for outdoor air ventilation. The existing unit ventilators should be removed and new units installed.

Two Trane Climate Changer air handling units located in the boiler room and original to the building provide conditioned air to the Auditorium and Gymnasium. The Auditorium AHU provides heating and cooling. The Gymnasium AHU only provides heating. These AHUs are beyond their service life and should be replaced with more efficient modern units. Fraying asbestos insulation covers the piping for the units and should be abated immediately.

Terminal & Package Units - The school has mechanical ventilation via exhaust fans which exhaust air from the plenum above the drop ceiling. Eight (8) exhaust fans are located on the penthouse roof and six (6) fans located on the main roof. No major issues reported with the exhaust fans.

There is one Mitsubishi split system that serves the computer room. This appears to be installed within the last 5 years and should not need replacement within the next 10 years.

Controls & Instrumentation - The original pneumatic systems still provide basic control functions. Pneumatic room thermostats are intended to control the dual system unit ventilator control valves. Several rooms have digital thermostats connected to unit ventilators. In reality the ventilator control valves are wide open and heating and cooling control is achieved via the boilers or chiller. Pneumatic control air is supplied from a duplex Robertshaw compressor and Hankison air dryer located in the boiler room. The maintenance staff reports problems with oil being sprayed into the pneumatic copper tubing. The pneumatic systems are beyond their service life and require too much attention from the maintenance staff. The original control valves and pneumatic actuators are beyond their service life and should be rebuilt or replaced. These controls should be converted to DDC.

A new building automation system (BAS) with modern DDC modules and communications network should be installed to serve the HVAC systems in this building to improve reliability and energy efficiency. An interface should be provided with the preferred system in use throughout the District.

Sprinklers - The school building is NOT covered by an automatic sprinkler system. Installing a sprinkler system with quick response type heads should reduce insurance costs by providing protection for the property investment. A fire pump may be required depending on the available city water pressure.

ELECTRICAL:

Electrical Service- The electrical service is fed from an underground distribution system along W Oxford St. The service enters the building underground then rises up to the penthouse to a 500 kVA, 13200V:480/277V substation. The substation is equipped with a 600A load interrupter switch. After the medium voltage transformer, the substation contains a 480V 800A distribution section, followed by a 480:208/120V 225 kVA step down transformer, then a 208/120V 800A distribution section. The substation is original to the building, and was manufactured by Federal Pacific which no longer exists. The substation should be replaced.

Distribution System and Raceway System - The main distribution panel is rated 1600A, and is attached to the end of the substation. Electrical panels located on each floor are fed from this main distribution panel, and provides power to the receptacles and lighting on each floor. The second and third floor contains a panel to provide power to the unit ventilators located in the classrooms.

Receptacles - Classrooms are typically supplied with 4 duplex receptacles. One additional receptacle should be added to each wall in these classrooms.

Lighting- Most of the building is outfitted with fluorescent fixtures with T-12 lamps, the auditorium contains compact fluorescent screw in type fixtures, while the gymnasium has 15 mercury vapor lamps. Classroom are fitted with either suspended indirect linear fixtures, or 2X4-4 lamp fixtures. Classroom lighting is typically controlled by inboard/outboard switching. Corridors are illuminated by 1X4-2 lamp surface mounted fixtures in some areas, and 2X4-4 lamp lay in fixtures in other areas. The administrative areas use 2X4-4 lamp lay in type fixtures. Lighting levels in the classroom areas were found to be in the 15-20 fc range in the rooms with the indirect lighting. This does not meet IES (Illuminating Engineering Society) recommended levels of 50 fc. The gym lighting level was found acceptable at 50 fc. Media center lighting levels were found to be in the 20-30 fc range, which is below recommended levels. Administrative area lighting is acceptable. Corridor lighting was found acceptable at 15 fc. It is recommended to upgrade the lighting throughout the facility.

Fire Alarm System – The school has a Simplex 4005 fire alarm system. The system consists of pull stations and bells with strobes located in the corridors only. There are no devices in classrooms, gymnasium, or auditorium. Administrative area contains an audible device. It is recommended to upgrade the fire alarm system to provide adequate visual coverage throughout the school.

Telephone/LAN – The present telephone/LAN system is adequate.

Public Address/Intercom/Paging – An independent and separate PA system does not exist. School uses the telephone system for public announcement. Two way communication is not available through the public announcement system. Communication back to the office is through a wall mounted phone located in each classroom. This system is adequate and in working condition. Classrooms and corridors contain ceiling mounted speakers where a drop ceiling exists, and wall mounted speakers otherwise.

Clock and Program System – The present bell system is adequate. There is no clock system for classrooms.

Television System – The facility is equipped with TV coax system, however there presently are no televisions in the classrooms.

Security System – There facility is equipped with door contacts on exterior doors. There are also motion sensors in the first floor corridors.

Emergency Power System – A 30kW natural gas Onan generator is housed in the basement of the school for emergency lighting. The generator is not currently adequate for the facility as it does not provide emergency power to the elevator.

Emergency Lighting System / Exit Lighting - The emergency lighting is provided by select fluorescent fixtures that are connected to the generator. This lighting is not adequate and needs to be upgraded. The exit lighting is adequate.

Lightning Protection System- A lightning protection system does not exist.

Site Lighting - Site lighting is provided by building mounted flood lights installed around the entire perimeter of the school. The site lighting provides an adequate amount of lighting.

Video Surveillance – There are exterior cameras and cameras covering entrances, first floor lobby, and main office.

Site Paging – There are no exterior speakers for site paging.

Elevators – There is one passenger elevator in the facility. The elevator is a hydraulic type with a 2,500 pound capacity. The elevator hydraulic pump is rated 25 hp, 460V. Elevator is not on emergency generator.

GROUNDS (SITE):

There is no parking lot at the site. Playground pavement adjacent to the building is in poor condition, paving is cracked and deteriorated; playground equipment is in fair condition. Perimeter fence separating the playground from the street is partially metal picket fence good condition, and partially chain link fence in, generally in poor condition and rusting. Landscaping is generally in fair condition.

ACCESSIBILITY:

Generally, the building has an accessible route per ADA requirements. However, toilets are not equipped with accessible fixtures, and accessories, such as grab bars, and accessible partitions. None of the doors in the building have ADA required door handles.

RECOMMENDATIONS:

- Install all new roofing system including insulation within next 5 to 10 years; tear-down existing roofing; install flashing, and counter flashing
- Replace all windows within next 5 to 10 years including security screens
- Install weather-stripping on all exterior doors
- Replace interior doors hardware for ADA accessibility
- Reconfigure toilets for accessibility, provide new toilet partitions
- Replace existing carpet
- Replace all suspended acoustical ceilings
- Replace loading dock bumpers
- Resurface playground paving.
- Replace loading dock area pavement (heavy vehicular traffic)
- Replace original chain link fence and security gate
- Replace the wall hung drinking fountains and integral refrigerated coolers in the corridors and at the restrooms. These units are well beyond their service life and most are NOT accessible type.
- Install three new gas fired instant hot water heaters with circulating pump.
- Replace existing sewage ejector pump system and piping in the sub-basement as it is approaching the end of its useful service life.
- Hire a qualified contractor to perform a detailed examination of the sanitary waste piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.
- Replace the two existing cast iron sectional boilers and burners with new cast iron sectional boilers of similar size, burners, and power ventilators.
- Hire a qualified contractor to examine the steam and condensate piping, in service for nearly 45 years, and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures.
- Replace the existing absorption chiller and cooling tower with a new packaged roof top mounted air cooled chiller fitted with modern controls. All associated piping and pumping systems should also be replaced.
- Replace building water distribution system in the boiler room with new primary and secondary loop pumps, piping, and controls.
- Replace the existing unit ventilators with two pipe units that have integral heat exchangers to introduce outdoor air to the building.
- Replace the two Trane Climate Changer air handling units serving the Auditorium and gymnasium by installing two new air handling units with outdoor air ducted to the units from louvers in the boiler room.
- Replace the pneumatic controls for the HVAC systems with modern DDC modules, valves and actuators to improve reliability and energy efficiency. Provide a new building automation system (BAS) with communication interface to the preferred system in use throughout the District.
- Install a fire protection sprinkler system with quick response type heads to reduce insurance costs by providing protection for the property. A fire pump may be required depending on the available city water pressure
- Install minimum one receptacle on each wall of classrooms and other purpose rooms.
- Replace existing T12 fixtures with T8 fixtures.
- Install a new addressable fire alarm system and provide audible and/or visual devices in all areas.
- Replace existing generator with larger generator sized to operate the elevator.

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 1 / Tm 4
Status:	Accepted by SDP	Team:	Tm 4
Site ID:	S537001		

Site Condition Summary

The Table below shows the CI and FCI for each major system shown at the UNIFORMAT classification Level II. Note that Systems with lower FCIs require less investment than systems with higher FCIs.

Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	58.00 %	0.00 %	$0.00
A20 - Basement Construction	58.00 %	0.00 %	$0.00
B10 - Superstructure	58.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	74.30 %	43.10 %	$971,775.79
B30 - Roofing	109.75 %	89.52 %	$938,531.72
C10 - Interior Construction	70.70 %	6.70 %	$65,732.86
C20 - Stairs	58.00 %	0.00 %	$0.00
C30 - Interior Finishes	96.17 %	23.14 %	$444,726.37
D10 - Conveying	105.71 %	0.00 %	$0.00
D20 - Plumbing	45.03 %	44.19 %	$360,970.03
D30 - HVAC	101.17 %	117.24 %	$5,216,685.07
D40 - Fire Protection	96.05 %	177.49 %	$572,219.29
D50 - Electrical	99.79 %	31.38 %	$737,915.70
E10 - Equipment	105.71 %	0.60 %	$3,810.26
E20 - Furnishings	105.00 %	0.00 %	$0.00
G20 - Site Improvements	75.45 %	90.86 %	$952,396.96
G40 - Site Electrical Utilities	55.90 %	0.00 %	$0.00
Totals:	**82.13 %**	**47.29 %**	**$10,264,764.05**

Condition Deficiency Priority

Facility Name	Gross Area (S.F.)	FCI %	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)
B537001;Moffet	40,000	45.74	$572,219.29	$1,732,908.23	$2,811,744.94	$1,978,266.03	$2,217,228.60
G537001;Grounds	68,600	70.72	$0.00	$0.00	$210,463.08	$16,798.17	$725,135.71
Total:		**47.29**	**$572,219.29**	**$1,732,908.23**	**$3,022,208.02**	**$1,995,064.20**	**$2,942,364.31**

Deficiencies By Priority

- 1 - Response Time (< 2 yr) - $572,219.29
- 2 - Response Time (2-3 yrs) - $1,732,908.23
- 3 - Response Time (3-4 yrs) - $3,022,208.02
- 4 - Response Time (4-5 yrs) - $1,995,064.20
- 5 - Response Time (> 5 yrs) - $2,942,364.31

Budget Estimate Total: $10,264,764.05

Executive Summary

Building condition is evaluated based on the functional systems and elements of a building and organized according to the UNIFORMAT II Elemental Classification. The grouping of these systems and elements and applying a current replacement value to them develops a representative building cost model. Cost Models are developed for similar building types and functions. Systems and their elements are evaluated based on their current replacement values, life cycles, installation dates and next renewal dates. Systems and their elements that are within their useful lives are further evaluated to identify current deficient conditions that may have a significant impact on a system's or element's remaining service life, and to determine if they are beyond their predicted expected life. The system's or element's current replacement value is based on RS Means Commercial Cost Data.

Following are the cost model's system details for this facility. The Replacement Value is the amount needed to replace the property of the same present value. The Current Repair Amount, also known as Condition Needs, represents the budgeted contractor installed costs plus owner's soft costs for the repair, replacement or renewal for a component or system level deficiency. It excludes contributing costs for other components or systems that might also be associated with the corrective actions due to packaging the work. Facility Condition Index (FCI) FCI is an industry-standard measurement of facility condition calculated as the ratio of the costs to correct a facility's deficiencies to the facility's Current Replacement Value. It ranges from 0% (new) to 100% (very poor). Condition Index (CI) is calculated as the sum of a renewable system's Remaining Service Life (RSL) divided by the sum of a system's Replacement Value (both values exclude soft-cost to simplify calculation updates) expressed as a percentage ranging from 100% (new) to 0% (expired).

Function:	Elementary School
Gross Area (SF):	40,000
Year Built:	1973
Last Renovation:	
Replacement Value:	$20,360,696
Repair Cost:	$9,312,367.09
Total FCI:	45.74 %
Total RSLI:	82.86 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B537001
Sewage Ejector:	Yes	Status:	Accepted by SDP
Site ID:	S537001		

Condition Summary

The Table below shows the CI and FCI for each major building system shown at the UNIFORMAT classification Level II. Note that Systems with lower FCIs require less investment than systems with higher FCIs.

UNIFORMAT Classification	RSLI %	FCI %	Current Repair Cost
A10 - Foundations	58.00 %	0.00 %	$0.00
A20 - Basement Construction	58.00 %	0.00 %	$0.00
B10 - Superstructure	58.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	74.30 %	43.10 %	$971,775.79
B30 - Roofing	109.75 %	89.52 %	$938,531.72
C10 - Interior Construction	70.70 %	6.70 %	$65,732.86
C20 - Stairs	58.00 %	0.00 %	$0.00
C30 - Interior Finishes	96.17 %	23.14 %	$444,726.37
D10 - Conveying	105.71 %	0.00 %	$0.00
D20 - Plumbing	45.03 %	44.19 %	$360,970.03
D30 - HVAC	101.17 %	117.24 %	$5,216,685.07
D40 - Fire Protection	96.05 %	177.49 %	$572,219.29
D50 - Electrical	99.79 %	31.38 %	$737,915.70
E10 - Equipment	105.71 %	0.60 %	$3,810.26
E20 - Furnishings	105.00 %	0.00 %	$0.00
Totals:	**82.86 %**	**45.74 %**	**$9,312,367.09**

Condition Detail

This section of the report contains results of the Facility Condition Assessment. The building is separated into system components based on UNIFORMAT II classification. The columns in the System Listing table below represent the following:

1. System Code: A code that identifies the system.
2. System Description: A brief description of a system present in the building.
3. Unit Price $: The unit price of the system.
4. UoM: The unit of measure for of the system.
5. Qty: The quantity for the system
6. Life: anticipated service life for thesystem based on Building Owners and Managers Association (BOMA) recommendations.
7. Year Installed: The date of system installation.
8. Calc Next Renewal Year: The date of system expiration based on the life, NR stands for non renewable.
9. Next Renewal Year: The suggested system expiration date by the assessor based on visual inspection.
10. CI: The Condition Index of the system.
11. FCI: The Facility Condition Index of the system.
12. RSL: Remaining Service Life.
13. eCR: eCOMET Condition Rating (not used).
14. Deficiency $: The financial investment to repair/replace system.

System Listing

The System Listing table below lists each of the systems organized by their UNIFORMAT II classification. The assessment team was tasked with recording the most recent replacement year of each system, determining the remaining service life based on the theoretical life, and evaluating the condition to confirm the forecast next replacement year. The system listing is the basis for all data contained in the Building Assessment Report.

Additionally, a condition rating (eCR) based on the following guidelines is provided as observed at the time of the assessment.

- Excellent (E) - No noticeable distress or damage. The entire system is free from observable defect.
- Very Good (VG) - Overall no serviceability reduction for the entire system. No degradation of critical components and minor distress and defect noticeable for some but not non critical components within the system.
- Good (G) - Slight or no serviceability reduction for the entire system. There may be noticeable defects for some non critical components and slight noticeable degradation of the critical components.
- Fair (F) - Overall serviceability is degraded but adequate. There may be moderate deterioration for very few of the critical components and few of the non critical components may have severe degradation.
- Marginal (MA) - Overall serviceability and reliability loss. Most if not all of the non critical components suffer from severe degradation and a few of the critical component may have severe degradation.
- Moderate (MO) - Overall a significant serviceability loss. Most if not all the components have severe degradation with the reminder of the component showing visible distress.
- Very Poor (VP) - Overall the system is barely functional. All of the components are severely degraded.
- Non-Functional (NF) - Overall the system does not function with all the components having no serviceability and suffer from severe degradation.

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
A1010	Standard Foundations	$18.40	S.F.	40,000	100	1973	2073		58.00 %	0.00 %	58			$736,000
A1030	Slab on Grade	$7.73	S.F.	40,000	100	1973	2073		58.00 %	0.00 %	58			$309,200
A2010	Basement Excavation	$6.55	S.F.	40,000	100	1973	2073		58.00 %	0.00 %	58			$262,000
A2020	Basement Walls	$12.70	S.F.	40,000	100	1973	2073		58.00 %	0.00 %	58			$508,000
B1010	Floor Construction	$75.10	S.F.	40,000	100	1973	2073		58.00 %	0.00 %	58			$3,004,000
B1020	Roof Construction	$13.88	S.F.	40,000	100	1973	2073		58.00 %	0.00 %	58			$555,200
B2010	Exterior Walls	$36.91	S.F.	40,000	100	1973	2073		58.00 %	0.00 %	58			$1,476,400
B2020	Exterior Windows	$18.01	S.F.	40,000	40	1973	2013	2057	105.00 %	130.04 %	42		$936,839.39	$720,400
B2030	Exterior Doors	$1.45	S.F.	40,000	25	1973	1998	2042	108.00 %	60.24 %	27		$34,936.40	$58,000
B3010105	Built-Up	$37.76	S.F.	27,700	20	1973	1993	2037	110.00 %	89.73 %	22		$938,531.72	$1,045,952
B3010120	Single Ply Membrane	$38.73	S.F.		20				0.00 %	0.00 %				$0
B3010130	Preformed Metal Roofing	$54.22	S.F.		30				0.00 %	0.00 %				$0
B3010140	Shingle & Tile	$38.73	S.F.		25				0.00 %	0.00 %				$0
B3020	Roof Openings	$0.06	S.F.	40,000	20				0.00 %	0.00 %				$2,400
C1010	Partitions	$17.91	S.F.	40,000	100	1973	2073		58.00 %	0.00 %	58			$716,400
C1020	Interior Doors	$3.51	S.F.	40,000	40	1973	2013	2057	105.00 %	9.80 %	42		$13,766.19	$140,400
C1030	Fittings	$3.12	S.F.	40,000	40	1973	2013	2057	105.00 %	41.64 %	42		$51,966.67	$124,800
C2010	Stair Construction	$1.41	S.F.	40,000	100	1973	2073		58.00 %	0.00 %	58			$56,400

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
C3010230	Paint & Covering	$13.21	S.F.	40,000	10	2005	2015	2027	120.00 %	0.00 %	12			$528,400
C3010231	Vinyl Wall Covering	$0.97	S.F.	40,000	15				0.00 %	0.00 %				$38,800
C3010232	Wall Tile	$2.63	S.F.	40,000	30				0.00 %	0.00 %				$105,200
C3020411	Carpet	$7.30	S.F.	2,000	10	1973	1983	2027	120.00 %	153.55 %	12		$22,418.32	$14,600
C3020412	Terrazzo & Tile	$75.52	S.F.	2,000	50	1973	2023		16.00 %	0.00 %	8			$151,040
C3020413	Vinyl Flooring	$9.68	S.F.	25,000	20	1973	1993	2037	110.00 %	0.00 %	22			$242,000
C3020414	Wood Flooring	$22.27	S.F.		25				0.00 %	0.00 %				$0
C3020415	Concrete Floor Finishes	$0.97	S.F.	3,200	50	1973	2023		16.00 %	0.00 %	8			$3,104
C3030	Ceiling Finishes	$20.97	S.F.	40,000	25	1973	1998	2042	108.00 %	50.35 %	27		$422,308.05	$838,800
D1010	Elevators and Lifts	$1.53	S.F.	40,000	35	1973	2008	2052	105.71 %	0.00 %	37			$61,200
D2010	Plumbing Fixtures	$13.52	S.F.	40,000	35	1973	2008	2025	28.57 %	11.21 %	10		$60,633.52	$540,800
D2020	Domestic Water Distribution	$1.68	S.F.	40,000	25	1973	1998	2042	108.00 %	109.26 %	27		$73,420.64	$67,200
D2030	Sanitary Waste	$2.90	S.F.	40,000	25	1973	1998	2042	108.00 %	195.62 %	27		$226,915.87	$116,000
D2040	Rain Water Drainage	$2.32	S.F.	40,000	30	1973	2003	2020	16.67 %	0.00 %	5			$92,800
D3020	Heat Generating Systems	$18.67	S.F.	40,000	35	1973	2008	2052	105.71 %	140.62 %	37		$1,050,121.66	$746,800
D3030	Cooling Generating Systems	$24.48	S.F.	40,000	30	1973	2003	2047	106.67 %	69.34 %	32		$678,976.31	$979,200
D3040	Distribution Systems	$42.99	S.F.	40,000	25	1973	1998	2042	108.00 %	152.91 %	27		$2,629,505.94	$1,719,600
D3050	Terminal & Package Units	$11.60	S.F.	40,000	15	1973	1988	2022	46.67 %	0.00 %	7			$464,000
D3060	Controls & Instrumentation	$13.50	S.F.	40,000	20	1973	1993	2037	110.00 %	158.90 %	22		$858,081.16	$540,000
D4010	Sprinklers	$7.05	S.F.	40,000	35	1973	2008	2052	105.71 %	202.91 %	37		$572,219.29	$282,000
D4020	Standpipes	$1.01	S.F.	40,000	35	1973	2008	2025	28.57 %	0.00 %	10			$40,400
D5010	Electrical Service/Distribution	$9.70	S.F.	40,000	30	1973	2003	2047	106.67 %	0.00 %	32			$388,000
D5020	Lighting and Branch Wiring	$34.68	S.F.	40,000	20	1973	1993	2037	110.00 %	40.94 %	22		$567,930.52	$1,387,200
D5030	Communications and Security	$12.99	S.F.	40,000	15	2010	2025		66.67 %	9.62 %	10		$49,966.64	$519,600
D5090	Other Electrical Systems	$1.41	S.F.	40,000	30	1973	2003	2047	106.67 %	212.80 %	32		$120,018.54	$56,400
E1020	Institutional Equipment	$4.82	S.F.	40,000	35	1973	2008	2052	105.71 %	0.00 %	37			$192,800
E1090	Other Equipment	$11.10	S.F.	40,000	35	1973	2008	2052	105.71 %	0.86 %	37		$3,810.26	$444,000
E2010	Fixed Furnishings	$2.13	S.F.	40,000	40	1973	2013	2057	105.00 %	0.00 %	42			$85,200
								Total	**82.86 %**	**45.74 %**			**$9,312,367.09**	**$20,360,696**

System Notes

The facility description in the site executive summary contains an overview of each system. The notes listed below provide additional information on select systems found within the facility.

System: C3010 - Wall Finishes — This system contains no images

Note: Paint 100%

System: C3020 - Floor Finishes — This system contains no images

Note: VCT 78%
Carpet 6%
Ceramic tile 6%
Concrete 10%

System: C3030 - Ceiling Finishes — This system contains no images

Note: ACT 87%
Exposed, paint 13%

System: D5010 - Electrical Service/Distribution — This system contains no images

Note: 1-225 kVA 480:208/120V 3 phase transformer - part of the substation/switchgear line up in the penthouse electrical room

Renewal Schedule

eCOMET forecasts future Capital Renewal funding needed to address expiring systems based on the Next Renewal year found in the Cost Models. A 3% annual inflation factor is applied to the costs for systems expiring in future years. The table below reflects recommended Capital Renewal funding needs over the next 10 years. Note: Cells with a zero value indicate systems for which renewal is not scheduled in that year.

Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$9,312,367**	**$0**	**$0**	**$0**	**$0**	**$118,339**	**$0**	**$627,728**	**$214,791**	**$0**	**$1,627,321**	**$11,900,546**
*** A - Substructure**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A10 - Foundations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A1010 - Standard Foundations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A1030 - Slab on Grade	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A20 - Basement Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A2010 - Basement Excavation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A2020 - Basement Walls	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B - Shell	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B10 - Superstructure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B1010 - Floor Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B1020 - Roof Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B20 - Exterior Enclosure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B2010 - Exterior Walls	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B2020 - Exterior Windows	$936,839	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$936,839**
B2030 - Exterior Doors	$34,936	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$34,936**
B30 - Roofing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010 - Roof Coverings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010105 - Built-Up	$938,532	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$938,532**
B3010120 - Single Ply Membrane	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010130 - Preformed Metal Roofing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010140 - Shingle & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3020 - Roof Openings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C - Interiors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C10 - Interior Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C1010 - Partitions	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

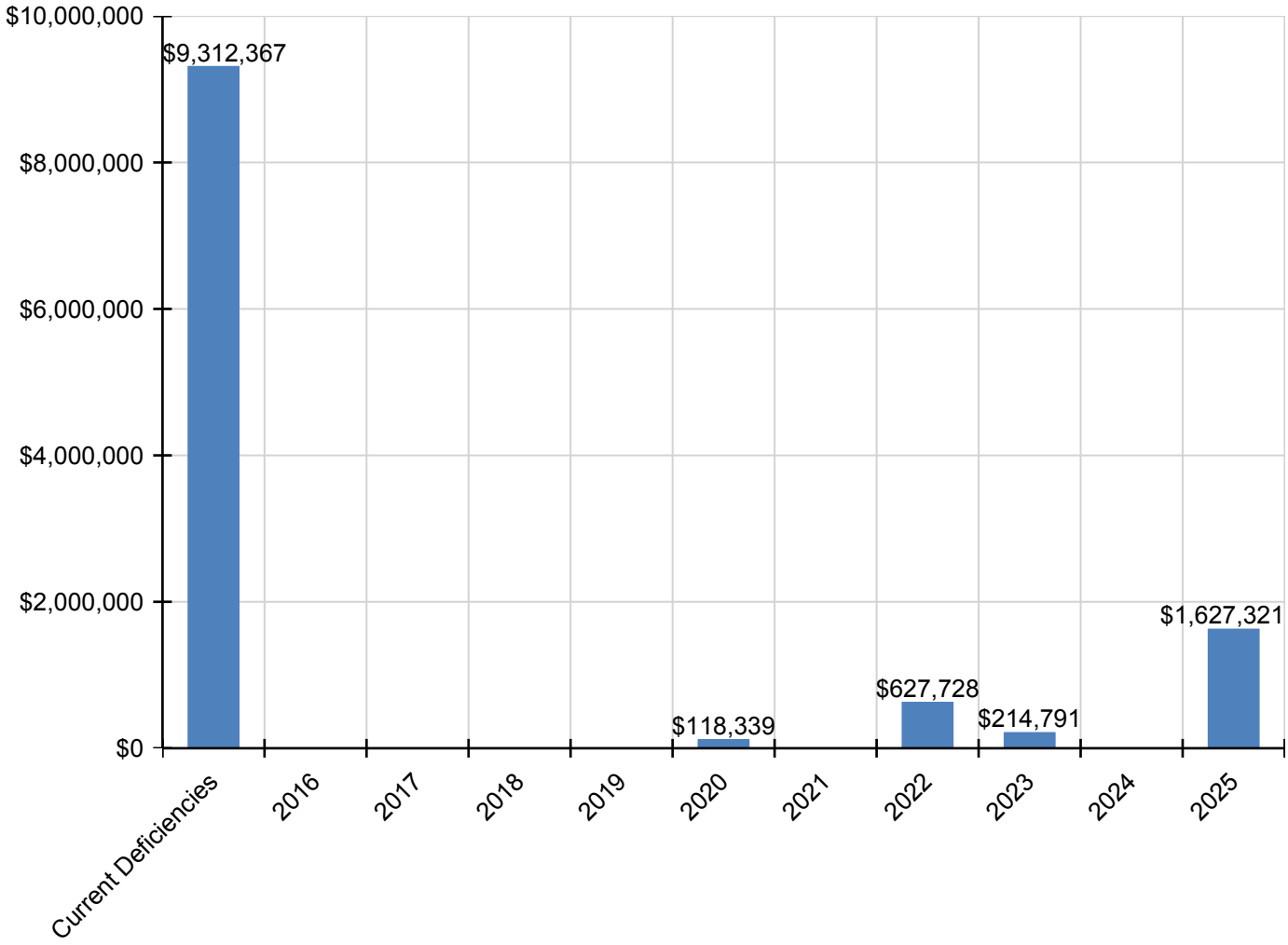
C1020 - Interior Doors	$13,766	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$13,766**
C1030 - Fittings	$51,967	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$51,967**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2010 - Stair Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C30 - Interior Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010 - Wall Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010230 - Paint & Covering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010231 - Vinyl Wall Covering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010232 - Wall Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020 - Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020411 - Carpet	$22,418	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$22,418**
C3020412 - Terrazzo & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$210,466	$0	$0	**$210,466**
C3020413 - Vinyl Flooring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020414 - Wood Flooring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020415 - Concrete Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$4,325	$0	$0	**$4,325**
C3030 - Ceiling Finishes	$422,308	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$422,308**
D - Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D10 - Conveying	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D1010 - Elevators and Lifts	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D20 - Plumbing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2010 - Plumbing Fixtures	$60,634	$0	$0	$0	$0	$0	$0	$0	$0	$0	$799,469	**$860,102**
D2020 - Domestic Water Distribution	$73,421	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$73,421**
D2030 - Sanitary Waste	$226,916	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$226,916**
D2040 - Rain Water Drainage	$0	$0	$0	$0	$0	$118,339	$0	$0	$0	$0	$0	**$118,339**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$1,050,122	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,050,122**
D3030 - Cooling Generating Systems	$678,976	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$678,976**
D3040 - Distribution Systems	$2,629,506	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$2,629,506**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$627,728	$0	$0	$0	**$627,728**
D3060 - Controls & Instrumentation	$858,081	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$858,081**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$572,219	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$572,219**
D4020 - Standpipes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$59,724	**$59,724**

D50 - Electrical	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D5010 - Electrical Service/Distribution	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D5020 - Lighting and Branch Wiring	$567,931	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$567,931**
D5030 - Communications and Security	$49,967	$0	$0	$0	$0	$0	$0	$0	$0	$0	$768,129	**$818,095**
D5090 - Other Electrical Systems	$120,019	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$120,019**
E - Equipment & Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E10 - Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E1020 - Institutional Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E1090 - Other Equipment	$3,810	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$3,810**
E20 - Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E2010 - Fixed Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

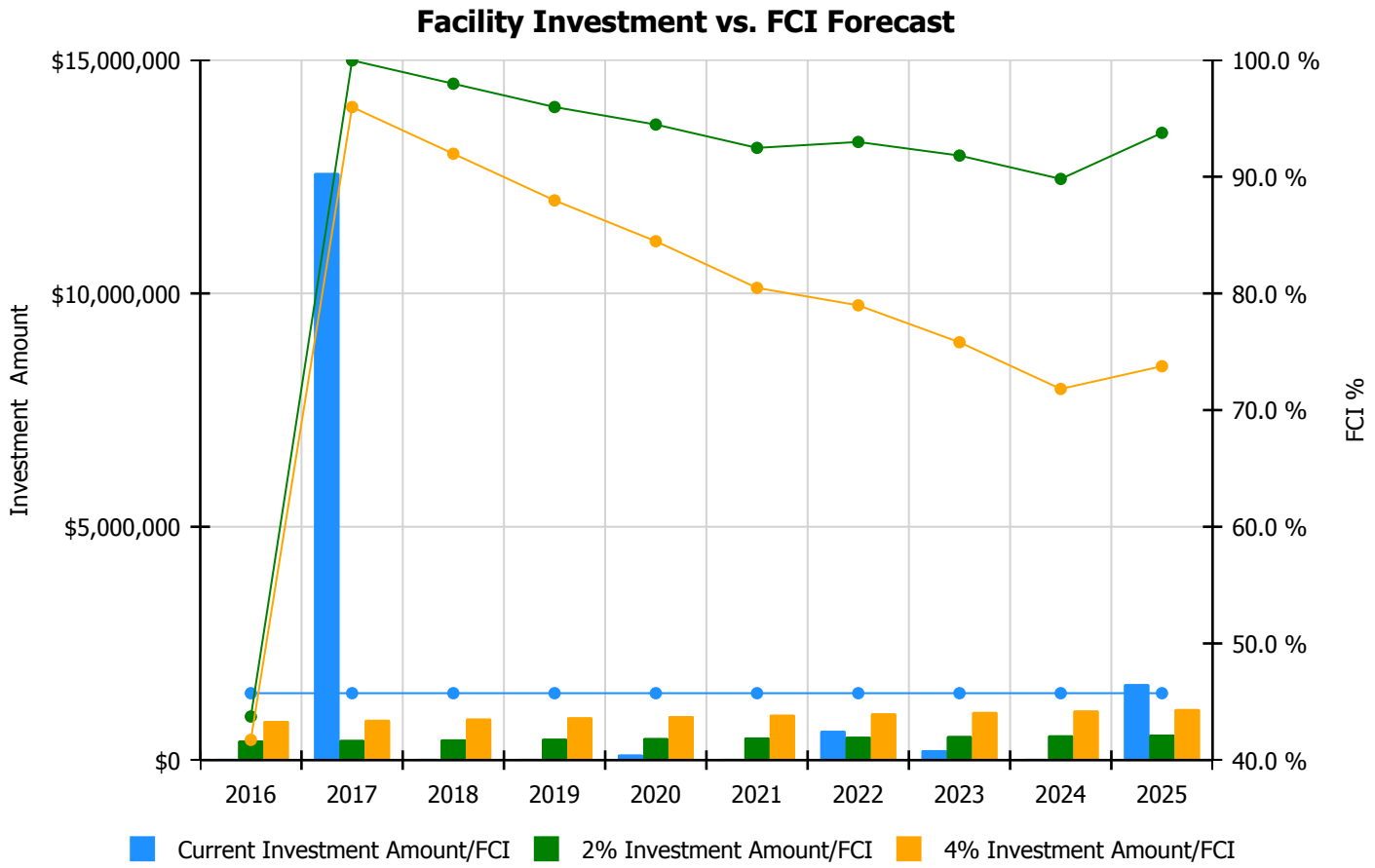
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



10 Year FCI Forecast by Investment Scenario

The chart below illustrates the effect of various investment levels on the building FCI for the next 10 years. The levels of investment shown below include:

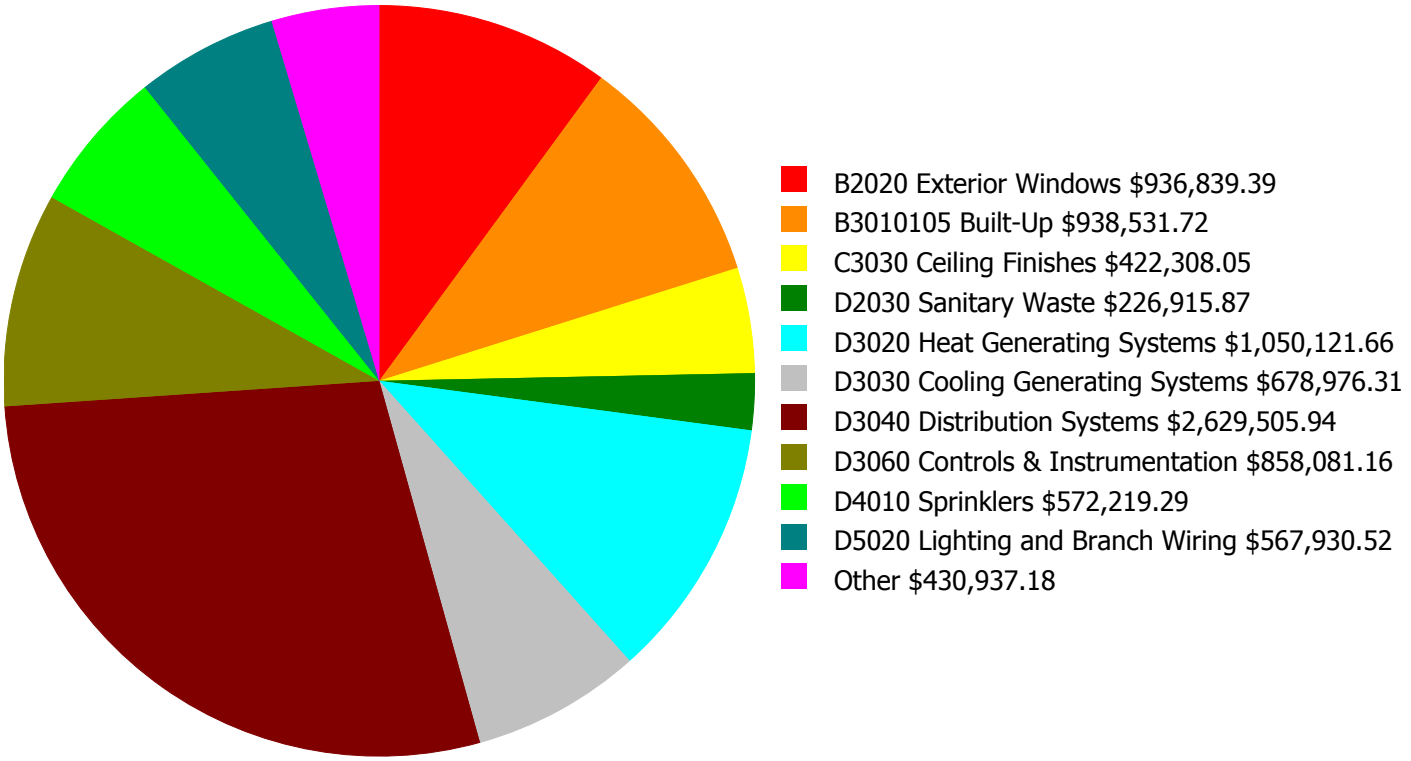
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value of the building, escalated for inflation



Year	Investment Amount Current FCI - 45.74%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$419,430.00	43.74 %	$838,861.00	41.74 %
2017	$12,578,929	$432,013.00	99.97 %	$864,026.00	95.97 %
2018	$0	$444,974.00	97.97 %	$889,947.00	91.97 %
2019	$0	$458,323.00	95.97 %	$916,646.00	87.97 %
2020	$118,339	$472,073.00	94.47 %	$944,145.00	84.47 %
2021	$0	$486,235.00	92.47 %	$972,469.00	80.47 %
2022	$627,728	$500,822.00	92.98 %	$1,001,644.00	78.98 %
2023	$214,791	$515,846.00	91.81 %	$1,031,693.00	75.81 %
2024	$0	$531,322.00	89.81 %	$1,062,644.00	71.81 %
2025	$1,627,321	$547,261.00	93.76 %	$1,094,523.00	73.76 %
Total:	**$15,167,108**	**$4,808,299.00**		**$9,616,598.00**	

Deficiency Summary by System

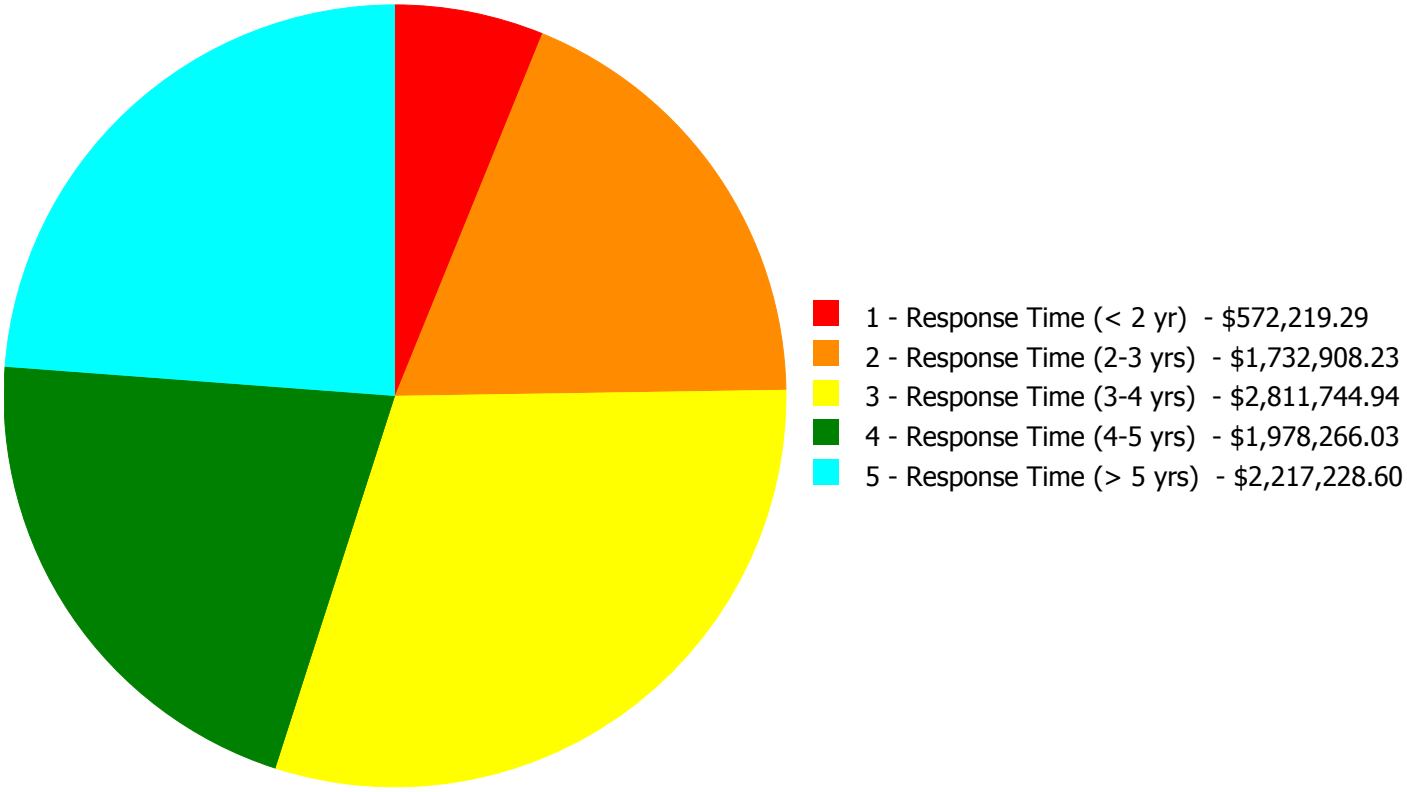
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart lists all current deficiencies associated with this facility.



Budget Estimate Total: $9,312,367.09

Deficiency Summary by Priority

The following chart shows the total repair costs broken down by priority. Assessors assigned deficiencies within eCOMET to one of the following priority categories:



Budget Estimate Total: $9,312,367.09

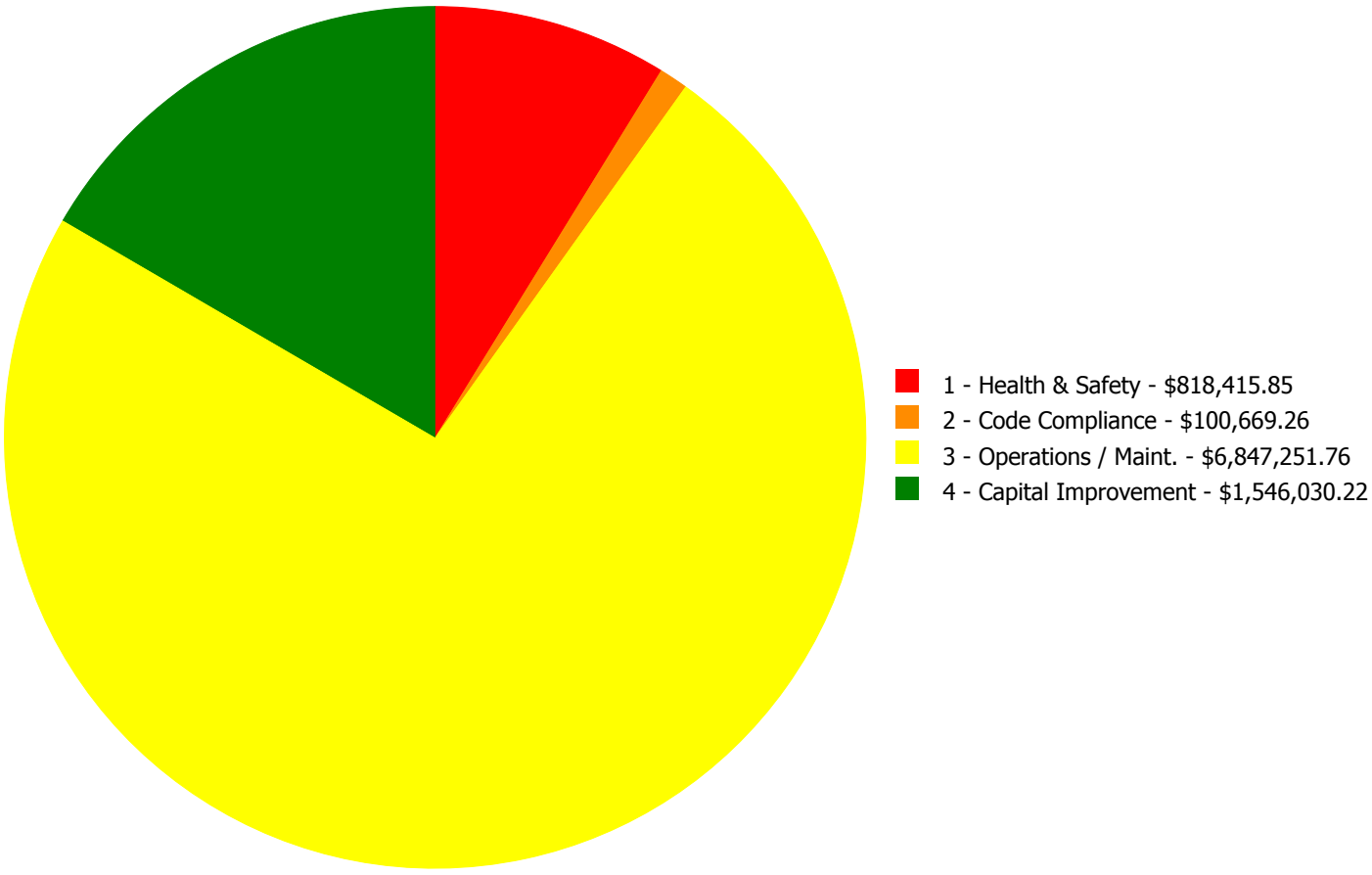
Deficiency By Priority Investment Table

The table below shows the current investment cost grouped by deficiency priority and building system.

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
B2020	Exterior Windows	$0.00	$0.00	$0.00	$0.00	$936,839.39	$936,839.39
B2030	Exterior Doors	$0.00	$0.00	$0.00	$34,936.40	$0.00	$34,936.40
B3010105	Built-Up	$0.00	$0.00	$938,531.72	$0.00	$0.00	$938,531.72
C1020	Interior Doors	$0.00	$0.00	$0.00	$13,766.19	$0.00	$13,766.19
C1030	Fittings	$0.00	$0.00	$51,966.67	$0.00	$0.00	$51,966.67
C3020411	Carpet	$0.00	$0.00	$22,418.32	$0.00	$0.00	$22,418.32
C3030	Ceiling Finishes	$0.00	$0.00	$0.00	$0.00	$422,308.05	$422,308.05
D2010	Plumbing Fixtures	$0.00	$0.00	$60,633.52	$0.00	$0.00	$60,633.52
D2020	Domestic Water Distribution	$0.00	$0.00	$73,420.64	$0.00	$0.00	$73,420.64
D2030	Sanitary Waste	$0.00	$0.00	$226,915.87	$0.00	$0.00	$226,915.87
D3020	Heat Generating Systems	$0.00	$1,050,121.66	$0.00	$0.00	$0.00	$1,050,121.66
D3030	Cooling Generating Systems	$0.00	$678,976.31	$0.00	$0.00	$0.00	$678,976.31
D3040	Distribution Systems	$0.00	$0.00	$699,942.50	$1,929,563.44	$0.00	$2,629,505.94
D3060	Controls & Instrumentation	$0.00	$0.00	$0.00	$0.00	$858,081.16	$858,081.16
D4010	Sprinklers	$572,219.29	$0.00	$0.00	$0.00	$0.00	$572,219.29
D5020	Lighting and Branch Wiring	$0.00	$0.00	$567,930.52	$0.00	$0.00	$567,930.52
D5030	Communications and Security	$0.00	$0.00	$49,966.64	$0.00	$0.00	$49,966.64
D5090	Other Electrical Systems	$0.00	$0.00	$120,018.54	$0.00	$0.00	$120,018.54
E1090	Other Equipment	$0.00	$3,810.26	$0.00	$0.00	$0.00	$3,810.26
	Total:	$572,219.29	$1,732,908.23	$2,811,744.94	$1,978,266.03	$2,217,228.60	$9,312,367.09

Deficiency Summary by Category

The following chart shows the total repair costs broken down by deficiency categories. Assessors assigned deficiencies to one of the following categories:



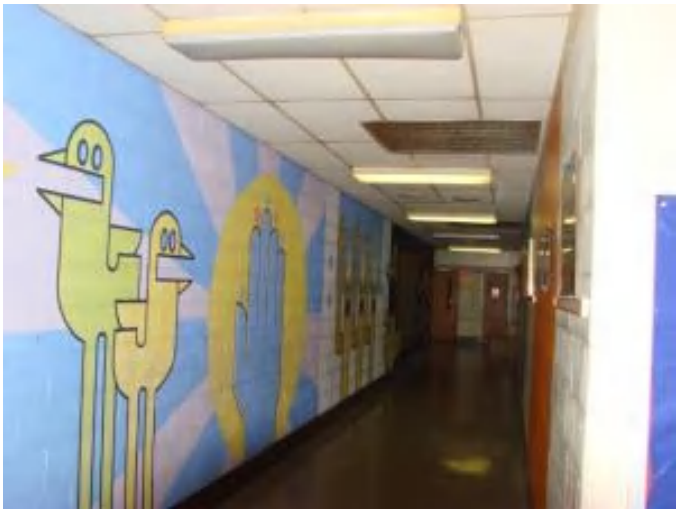
Budget Estimate Total: $9,312,367.09

Deficiency Details by Priority

The deficiency detail notes listed below provide additional information on identified deficiencies found within the facility.

Priority 1 - Response Time (< 2 yr):

System: D4010 - Sprinklers



Location: Throughout buliding

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Install a fire protection sprinkler system

Qty: 40,000.00

Unit of Measure: S.F.

Estimate: $572,219.29

Assessor Name: System

Date Created: 08/03/2015

Notes: Install a fire protection sprinkler system with quick response type heads to reduce insurance costs by providing protection for the property. A fire pump may be required depending on the available city water pressure.

Priority 2 - Response Time (2-3 yrs):

System: D3020 - Heat Generating Systems

Location: Boiler Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 2 - Response Time (2-3 yrs)

Correction: Replace boiler, cast iron sectional (150 HP)

Qty: 2.00

Unit of Measure: Ea.

Estimate: $1,050,121.66

Assessor Name: System

Date Created: 08/03/2015

Notes: Replace the two existing cast iron sectional boilers and burners with new cast iron sectional boilers of similar size, burners, and power ventilators.

System: D3030 - Cooling Generating Systems

Location: Boiler room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 2 - Response Time (2-3 yrs)

Correction: Install chilled water system with distribution piping and pumps. (+75KSF)

Qty: 40,000.00

Unit of Measure: S.F.

Estimate: $678,976.31

Assessor Name: System

Date Created: 08/03/2015

Notes: Replace the existing absorption chiller and cooling tower with a new water cooled chiller and cooling tower fitted with modern controls. All associated piping and pumping systems should also be replaced.

System: E1090 - Other Equipment

Location: Exterior

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 2 - Response Time (2-3 yrs)

Correction: Loading dock equipment - remove and replace dock leveler - delete the pipe bollards if not needed

Qty: 1.00

Unit of Measure: Ea.

Estimate: $3,810.26

Assessor Name: System

Date Created: 08/17/2015

Notes: Replace loading dock bumpers

Priority 3 - Response Time (3-4 yrs):

System: B3010105 - Built-Up

Location: Exterior/ Roof

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 3 - Response Time (3-4 yrs)

Correction: Remove and Replace Built Up Roof

Qty: 27,700.00

Unit of Measure: S.F.

Estimate: $938,531.72

Assessor Name: System

Date Created: 08/17/2015

Notes: Install all new roofing system including insulation within next 5 to 10 years; tear-down existing roofing; install flashing, and counter flashing

System: C1030 - Fittings

Location: Interiors

Distress: Accessibility

Category: 2 - Code Compliance

Priority: 3 - Response Time (3-4 yrs)

Correction: Remove and replace damaged toilet paritions - handicap units

Qty: 16.00

Unit of Measure: Ea.

Estimate: $51,966.67

Assessor Name: System

Date Created: 08/17/2015

Notes: Reconfigure toilets for accessibility, provide new toilet partitions

System: C3020411 - Carpet

Location: Interiors

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 3 - Response Time (3-4 yrs)

Correction: Remove and replace carpet

Qty: 2,000.00

Unit of Measure: S.F.

Estimate: $22,418.32

Assessor Name: System

Date Created: 08/17/2015

Notes: Replace existing carpet

System: D2010 - Plumbing Fixtures

Location: Corridors

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 3 - Response Time (3-4 yrs)

Correction: Remove and Replace Water Fountains - without ADA new recessed alcove

Qty: 8.00

Unit of Measure: Ea.

Estimate: $60,633.52

Assessor Name: System

Date Created: 08/03/2015

Notes: Replace the wall hung drinking fountains and integral refrigerated coolers in the corridors and at the restrooms. These units are well beyond their service life and most are NOT accessible type.

System: D2020 - Domestic Water Distribution

Location: Boiler Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 3 - Response Time (3-4 yrs)

Correction: Replace instantaneous water heater

Qty: 3.00

Unit of Measure: Ea.

Estimate: $73,420.64

Assessor Name: System

Date Created: 08/03/2015

Notes: Install three new gas fired instant hot water heaters with circulating pump.

System: D2030 - Sanitary Waste

Location: Throughout building

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 3 - Response Time (3-4 yrs)

Correction: Inspect sanitary waste piping and replace damaged sections. (+50KSF)

Qty: 40,000.00

Unit of Measure: S.F.

Estimate: $196,229.92

Assessor Name: System

Date Created: 08/03/2015

Notes: Hire a qualified contractor to perform a detailed examination of the sanitary waste piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.

System: D2030 - Sanitary Waste

Location: Elevator machine room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 3 - Response Time (3-4 yrs)

Correction: Replace sanitary sewage ejector pit and pumps. (48" dia.)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $30,685.95

Assessor Name: System

Date Created: 08/03/2015

Notes: Replace existing sewage ejector pump system and piping in the sub-basement as it is approaching the end of its useful service life.

System: D3040 - Distribution Systems

Location: Boiler room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 3 - Response Time (3-4 yrs)

Correction: Replace HVAC unit for Auditorium (200 seat).

Qty: 200.00

Unit of Measure: Seat

Estimate: $333,093.30

Assessor Name: System

Date Created: 08/04/2015

Notes: Replace the Trane Climate Changer air handling unit serving the Auditorium by installing anew air handling unit with outdoor air ducted to the unit from louvers in the boiler room.

System: D3040 - Distribution Systems

Location: Boiler room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 3 - Response Time (3-4 yrs)

Correction: Install HVAC unit for Cafeteria (850 students).

Qty: 417.00

Unit of Measure: Pr.

Estimate: $194,966.18

Assessor Name: System

Date Created: 08/03/2015

Notes: Replace the Trane Climate Changer air handling unit serving the gymnasium by installing a new air handling unit with outdoor air ducted to the unit from louvers in the boiler room.

System: D3040 - Distribution Systems

Location: Boiler Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 3 - Response Time (3-4 yrs)

Correction: Perform testing to identify and replace damaged steam and condensate piping.

Qty: 40,000.00

Unit of Measure: S.F.

Estimate: $171,883.02

Assessor Name: System

Date Created: 08/03/2015

Notes: Hire a qualified contractor to examine the steam and condensate piping, in service for nearly 45 years, and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures.

System: D5020 - Lighting and Branch Wiring

Location: Throughout Building
Distress: Energy Efficiency
Category: 4 - Capital Improvement
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace Lighting Fixtures (SF)
Qty: 40,000.00
Unit of Measure: S.F.
Estimate: $515,883.60
Assessor Name: System
Date Created: 08/05/2015

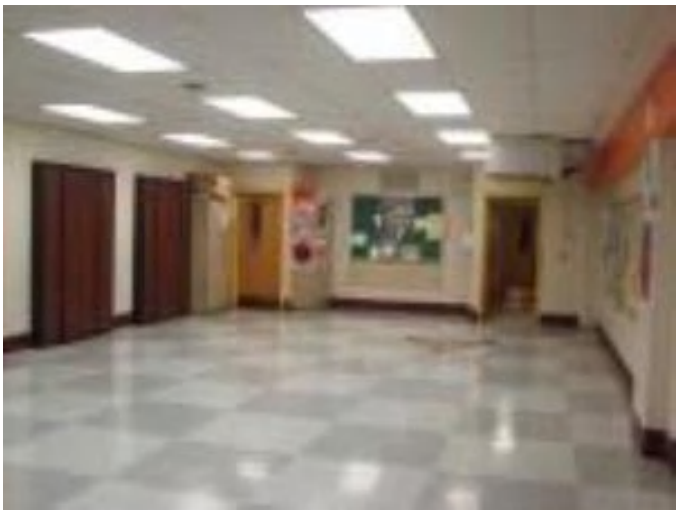
Notes: Replace existing T12 fixtures with T8 fixtures

System: D5020 - Lighting and Branch Wiring

Location: Throughout Building
Distress: Inadequate
Category: 4 - Capital Improvement
Priority: 3 - Response Time (3-4 yrs)
Correction: Add wiring device
Qty: 1.00
Unit of Measure: Ea.
Estimate: $52,046.92
Assessor Name: System
Date Created: 08/05/2015

Notes: Install minimum one receptacle on each wall of classrooms and other purpose rooms.

System: D5030 - Communications and Security



Location: Throughout Building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 3 - Response Time (3-4 yrs)

Correction: Replace fire alarm system

Qty: 1.00

Unit of Measure: S.F.

Estimate: $49,966.64

Assessor Name: System

Date Created: 08/05/2015

Notes: Install a new addressable fire alarm system and provide audible and/or visual devices in all areas.

System: D5090 - Other Electrical Systems

Location: Penthouse

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 3 - Response Time (3-4 yrs)

Correction: Replace standby generator system

Qty: 1.00

Unit of Measure: Ea.

Estimate: $120,018.54

Assessor Name: System

Date Created: 08/05/2015

Notes: Replace existing generator with larger generator sized to operate the elevator.

Priority 4 - Response Time (4-5 yrs):

System: B2030 - Exterior Doors

Location: Exterior

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 4 - Response Time (4-5 yrs)

Correction: Replace hardware with compliant hardware, paint and weatherstrip - per leaf

Qty: 10.00

Unit of Measure: Ea.

Estimate: $34,936.40

Assessor Name: System

Date Created: 08/17/2015

Notes: Install ADA compliant hardware and weather-stripping on all exterior doors

System: C1020 - Interior Doors

Location: Interiors

Distress: Accessibility

Category: 2 - Code Compliance

Priority: 4 - Response Time (4-5 yrs)

Correction: Provide security hardware for classroom and office doors

Qty: 60.00

Unit of Measure: Ea.

Estimate: $13,766.19

Assessor Name: System

Date Created: 08/17/2015

Notes: • Replace interior doors hardware for ADA accessibility

System: D3040 - Distribution Systems

Location: Throughout building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 4 - Response Time (4-5 yrs)

Correction: Replace the existing unit ventilators with new units designed to provide adequate ventilation per ASHRAE Std 62 - insert the SF of bldg. in the qty.

Qty: 40,000.00

Unit of Measure: S.F.

Estimate: $1,929,563.44

Assessor Name: System

Date Created: 08/03/2015

Notes: Replace the existing unit ventilators with two pipe units that have integral heat exchangers to introduce outdoor air to the building.

Priority 5 - Response Time (> 5 yrs):

System: B2020 - Exterior Windows

Location: Exterior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and replace aluminum windows - pick the appropriate size and style and insert the number of units

Qty: 80.00

Unit of Measure: Ea.

Estimate: $553,073.50

Assessor Name: System

Date Created: 08/17/2015

Notes: Replace all windows within next 5 to 10 years including security screens

System: B2020 - Exterior Windows

Location: Exterior

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace security screens

Qty: 2,500.00

Unit of Measure: S.F.

Estimate: $383,765.89

Assessor Name: System

Date Created: 08/17/2015

Notes: Replace all windows within next 5 to 10 years including security screens

System: C3030 - Ceiling Finishes

Location: Interiors

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and replace suspended acoustic ceilings - lighting not included

Qty: 28,000.00

Unit of Measure: S.F.

Estimate: $422,308.05

Assessor Name: System

Date Created: 08/17/2015

Notes: Replace all suspended acoustical ceilings

System: D3060 - Controls & Instrumentation

Location: Throughout building

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace pneumatic controls with DDC (75KSF)

Qty: 40,000.00

Unit of Measure: S.F.

Estimate: $858,081.16

Assessor Name: System

Date Created: 08/03/2015

Notes: Replace the pneumatic controls for the HVAC systems with modern DDC modules, valves and actuators to improve reliability and energy efficiency. Provide a new building automation system (BAS) with communication interface to the preferred system in use throughout the District.

Equipment Inventory

The following table represents the inventory details of the inventory found in the building, which fall under the following subsystems:

Subsystem	Inventory	Qty	UoM	Location	Manufacturer	Model Number	Serial Number	Barcode	Life	Install Date	Next Renewal	Raw Cost	Inventory Cost
D1010 Elevators and Lifts	Hydraulic, passenger elevator, 3000 lb, 2 floors, 100 FPM	1.00	Ea.						30			$73,815.00	$81,196.50
D3020 Heat Generating Systems	Boiler, oil fired, flame retention burner, cast iron, steam, gross output, 3820 MBH, includes standard controls and insulated flush jacket, packaged	2.00	Ea.	Boiler Room	Weil-McLain	94			35			$67,020.00	$147,444.00
D3020 Heat Generating Systems	Boiler, oil fired, flame retention burner, cast iron, steam, gross output, 3820 MBH, includes standard controls and insulated flush jacket, packaged	2.00	Ea.	Boiler Room	Weil-McLain	94			35			$67,020.00	$147,444.00
D5010 Electrical Service/Distribution	Load interrupter switch, 2 position, 400 kVA & above, 13.8 kV, 600 amp w/CLF fuses, NEMA 1	1.00	Ea.	Penthouse	Federal Pacific	26510 1595			30			$42,849.00	$47,133.90
D5010 Electrical Service/Distribution	Switchgear installation, incl switchboard, panels & circuit breaker, 120/208 V, 800 A	1.00	Ea.	Penthouse Electrical Room	Federal Pacific		22424-01		20			$21,766.05	$23,942.66
D5010 Electrical Service/Distribution	Switchgear installation, incl switchboard, panels & circuit breaker, 277/480 V, 800 A	1.00	Ea.	Penthouse Electrical Room	Federal Pacific		22424-01		20			$31,205.25	$34,325.78
D5010 Electrical Service/Distribution	Transformers, 13,800 volts to 480/277 volts, 500 kVA	1.00	Ea.	Penthouse Electrical Room	Federal Pacific		23439-001		30			$68,931.00	$75,824.10
												Total:	**$557,310.94**

Executive Summary

Building condition is evaluated based on the functional systems and elements of a building and organized according to the UNIFORMAT II Elemental Classification. The grouping of these systems and elements and applying a current replacement value to them develops a representative building cost model. Cost Models are developed for similar building types and functions. Systems and their elements are evaluated based on their current replacement values, life cycles, installation dates and next renewal dates. Systems and their elements that are within their useful lives are further evaluated to identify current deficient conditions that may have a significant impact on a system's or element's remaining service life, and to determine if they are beyond their predicted expected life. The system's or element's current replacement value is based on RS Means Commercial Cost Data.

Following are the cost model's system details for this facility. The Replacement Value is the amount needed to replace the property of the same present value. The Current Repair Amount, also known as Condition Needs, represents the budgeted contractor installed costs plus owner's soft costs for the repair, replacement or renewal for a component or system level deficiency. It excludes contributing costs for other components or systems that might also be associated with the corrective actions due to packaging the work. Facility Condition Index (FCI) FCI is an industry-standard measurement of facility condition calculated as the ratio of the costs to correct a facility's deficiencies to the facility's Current Replacement Value. It ranges from 0% (new) to 100% (very poor). Condition Index (CI) is calculated as the sum of a renewable system's Remaining Service Life (RSL) divided by the sum of a system's Replacement Value (both values exclude soft-cost to simplify calculation updates) expressed as a percentage ranging from 100% (new) to 0% (expired).

Function:	
Gross Area (SF):	68,600
Year Built:	1973
Last Renovation:	
Replacement Value:	$1,346,630
Repair Cost:	$952,396.96
Total FCI:	70.72 %
Total RSLI:	71.12 %

Description:

Attributes:

General Attributes:

Bldg ID:	S537001	Site ID:	S537001

Condition Summary

The Table below shows the CI and FCI for each major building system shown at the UNIFORMAT classification Level II. Note that Systems with lower FCIs require less investment than systems with higher FCIs.

UNIFORMAT Classification	RSLI %	FCI %	Current Repair Cost
G20 - Site Improvements	75.45 %	90.86 %	$952,396.96
G40 - Site Electrical Utilities	55.90 %	0.00 %	$0.00
Totals:	**71.12 %**	**70.72 %**	**$952,396.96**

Condition Detail

This section of the report contains results of the Facility Condition Assessment. The building is separated into system components based on UNIFORMAT II classification. The columns in the System Listing table below represent the following:

1. System Code: A code that identifies the system.
2. System Description: A brief description of a system present in the building.
3. Unit Price $: The unit price of the system.
4. UoM: The unit of measure for of the system.
5. Qty: The quantity for the system
6. Life: anticipated service life for thesystem based on Building Owners and Managers Association (BOMA) recommendations.
7. Year Installed: The date of system installation.
8. Calc Next Renewal Year: The date of system expiration based on the life, NR stands for non renewable.
9. Next Renewal Year: The suggested system expiration date by the assessor based on visual inspection.
10. CI: The Condition Index of the system.
11. FCI: The Facility Condition Index of the system.
12. RSL: Remaining Service Life.
13. eCR: eCOMET Condition Rating (not used).
14. Deficiency $: The financial investment to repair/replace system.

System Listing

The System Listing table below lists each of the systems organized by their UNIFORMAT II classification. The assessment team was tasked with recording the most recent replacement year of each system, determining the remaining service life based on the theoretical life, and evaluating the condition to confirm the forecast next replacement year. The system listing is the basis for all data contained in the Building Assessment Report.

Additionally, a condition rating (eCR) based on the following guidelines is provided as observed at the time of the assessment.

- Excellent (E) - No noticeable distress or damage. The entire system is free from observable defect.
- Very Good (VG) - Overall no serviceability reduction for the entire system. No degradation of critical components and minor distress and defect noticeable for some but not non critical components within the system.
- Good (G) - Slight or no serviceability reduction for the entire system. There may be noticeable defects for some non critical components and slight noticeable degradation of the critical components.
- Fair (F) - Overall serviceability is degraded but adequate. There may be moderate deterioration for very few of the critical components and few of the non critical components may have severe degradation.
- Marginal (MA) - Overall serviceability and reliability loss. Most if not all of the non critical components suffer from severe degradation and a few of the critical component may have severe degradation.
- Moderate (MO) - Overall a significant serviceability loss. Most if not all the components have severe degradation with the reminder of the component showing visible distress.
- Very Poor (VP) - Overall the system is barely functional. All of the components are severely degraded.
- Non-Functional (NF) - Overall the system does not function with all the components having no serviceability and suffer from severe degradation.

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
G2010	Roadways	$11.52	S.F.		30				0.00 %	0.00 %				$0
G2020	Parking Lots	$7.65	S.F.	10,000	30	1973	2003	2040	83.33 %	275.12 %	25		$210,463.08	$76,500
G2030	Pedestrian Paving	$11.52	S.F.	53,400	40	1973	2013	2040	62.50 %	116.90 %	25		$719,142.51	$615,168
G2040	Site Development	$4.36	S.F.	68,600	25	1990	2015	2035	80.00 %	7.62 %	20		$22,791.37	$299,096
G2050	Landscaping & Irrigation	$3.78	S.F.	15,200	15	1973	1988	2042	180.00 %	0.00 %	27			$57,456
G4020	Site Lighting	$3.58	S.F.	68,600	30	2000	2030		50.00 %	0.00 %	15			$245,588
G4030	Site Communications & Security	$0.77	S.F.	68,600	30	2010	2040		83.33 %	0.00 %	25			$52,822
								Total	**71.12 %**	**70.72 %**			**$952,396.96**	**$1,346,630**

System Notes

The facility description in the site executive summary contains an overview of each system. The notes listed below provide additional information on select systems found within the facility.

No data found for this asset

Renewal Schedule

eCOMET forecasts future Capital Renewal funding needed to address expiring systems based on the Next Renewal year found in the Cost Models. A 3% annual inflation factor is applied to the costs for systems expiring in future years. The table below reflects recommended Capital Renewal funding needs over the next 10 years. Note: Cells with a zero value indicate systems for which renewal is not scheduled in that year.

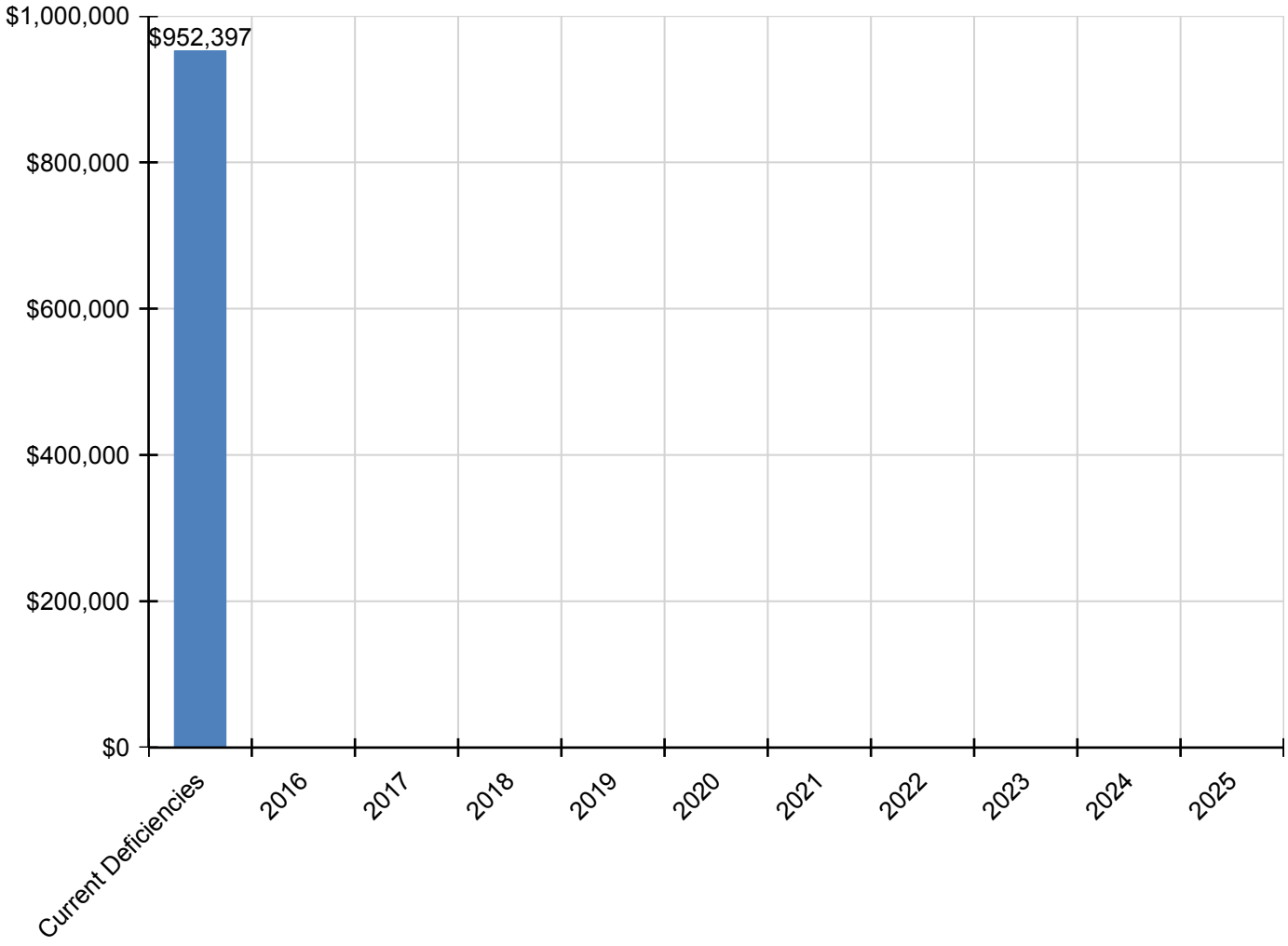
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$952,397**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$952,397**
G - Building Sitework	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G20 - Site Improvements	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2010 - Roadways	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2020 - Parking Lots	$210,463	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$210,463**
G2030 - Pedestrian Paving	$719,143	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$719,143**
G2040 - Site Development	$22,791	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$22,791**
G2050 - Landscaping & Irrigation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G40 - Site Electrical Utilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4020 - Site Lighting	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4030 - Site Communications & Security	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

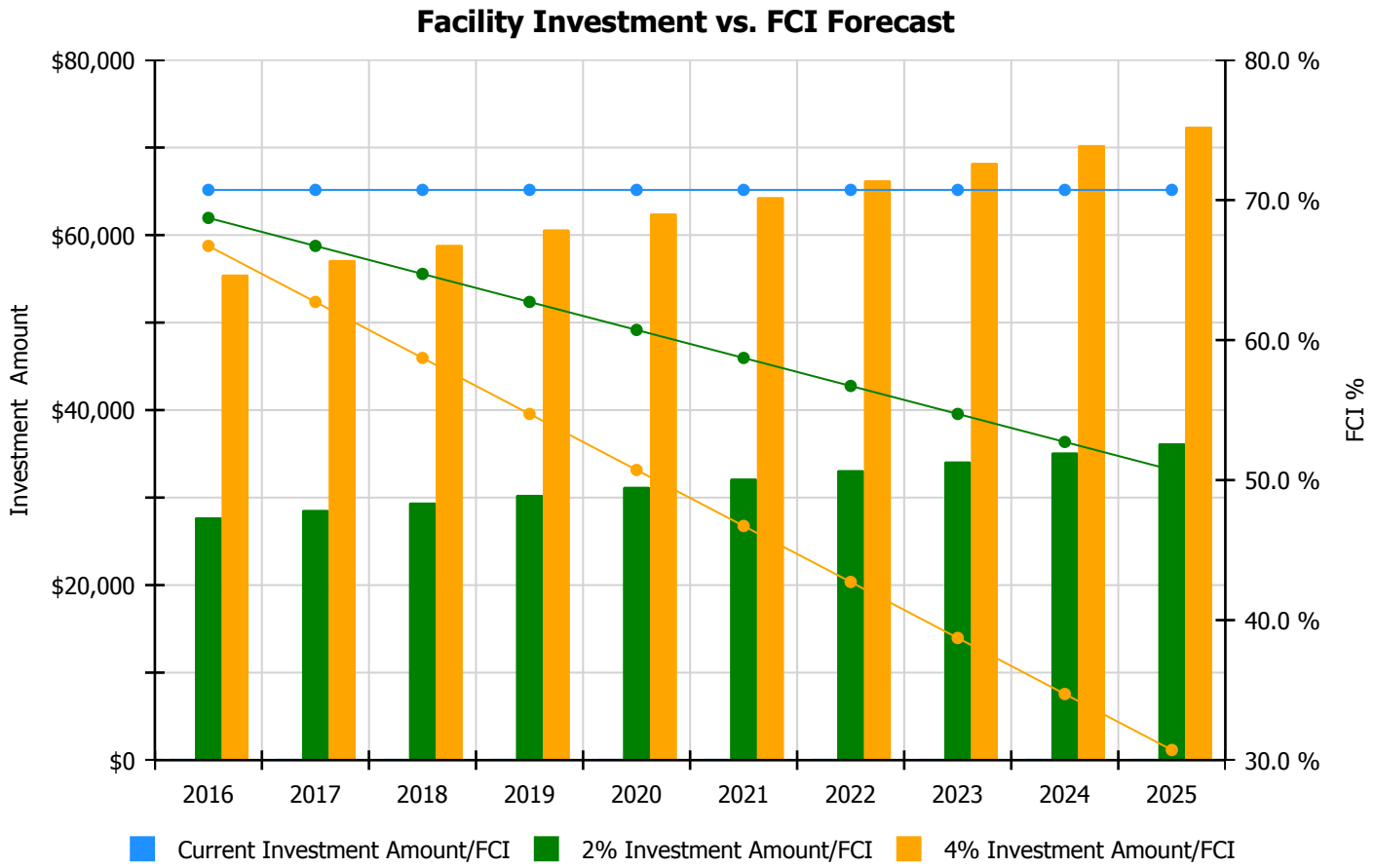
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



10 Year FCI Forecast by Investment Scenario

The chart below illustrates the effect of various investment levels on the building FCI for the next 10 years. The levels of investment shown below include:

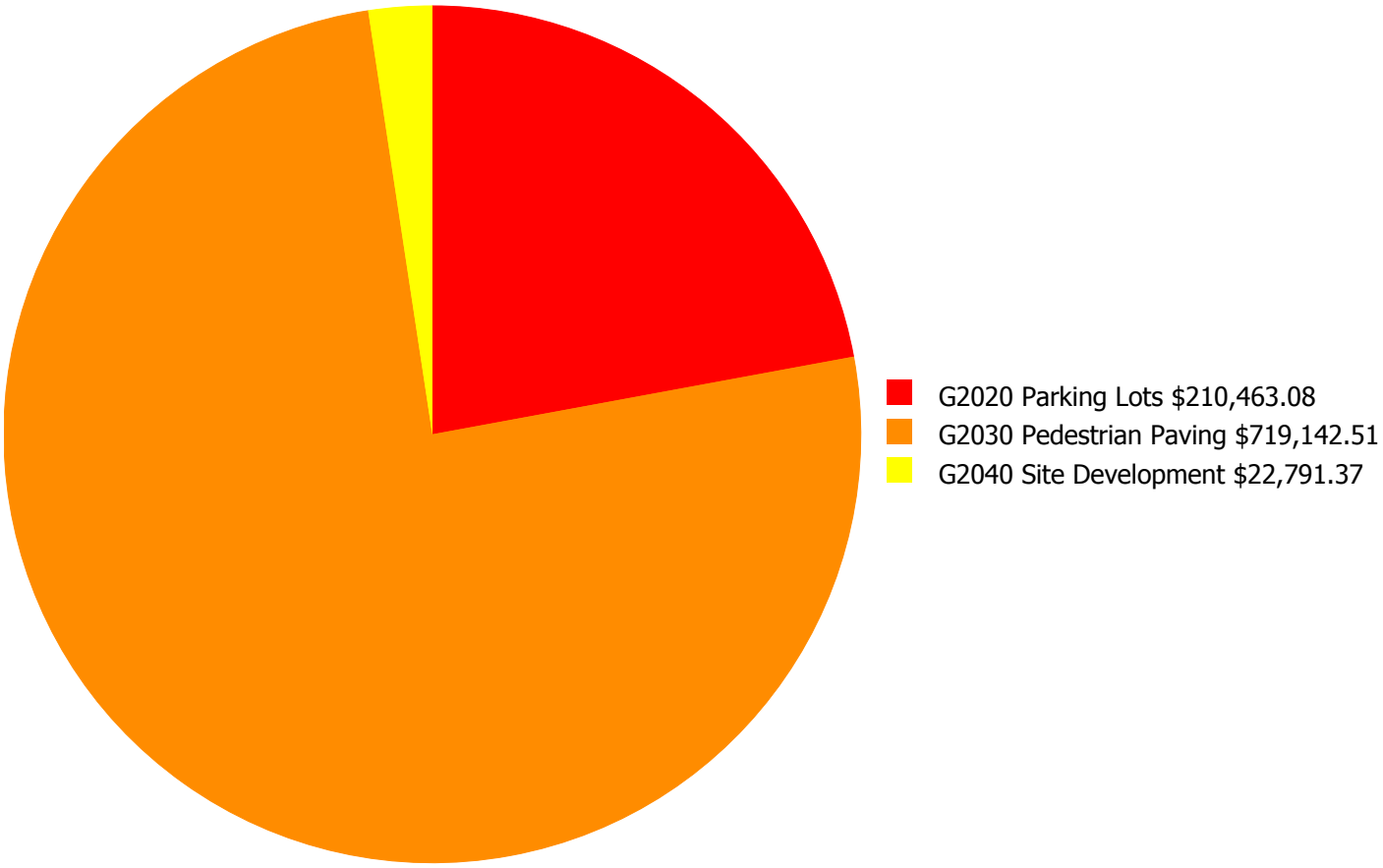
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value of the building, escalated for inflation



Year	Investment Amount Current FCI - 70.72%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$27,741.00	68.72 %	$55,481.00	66.72 %
2017	$0	$28,573.00	66.72 %	$57,146.00	62.72 %
2018	$0	$29,430.00	64.72 %	$58,860.00	58.72 %
2019	$0	$30,313.00	62.72 %	$60,626.00	54.72 %
2020	$0	$31,222.00	60.72 %	$62,445.00	50.72 %
2021	$0	$32,159.00	58.72 %	$64,318.00	46.72 %
2022	$0	$33,124.00	56.72 %	$66,247.00	42.72 %
2023	$0	$34,117.00	54.72 %	$68,235.00	38.72 %
2024	$0	$35,141.00	52.72 %	$70,282.00	34.72 %
2025	$0	$36,195.00	50.72 %	$72,390.00	30.72 %
Total:	**$0**	**$318,015.00**		**$636,030.00**	

Deficiency Summary by System

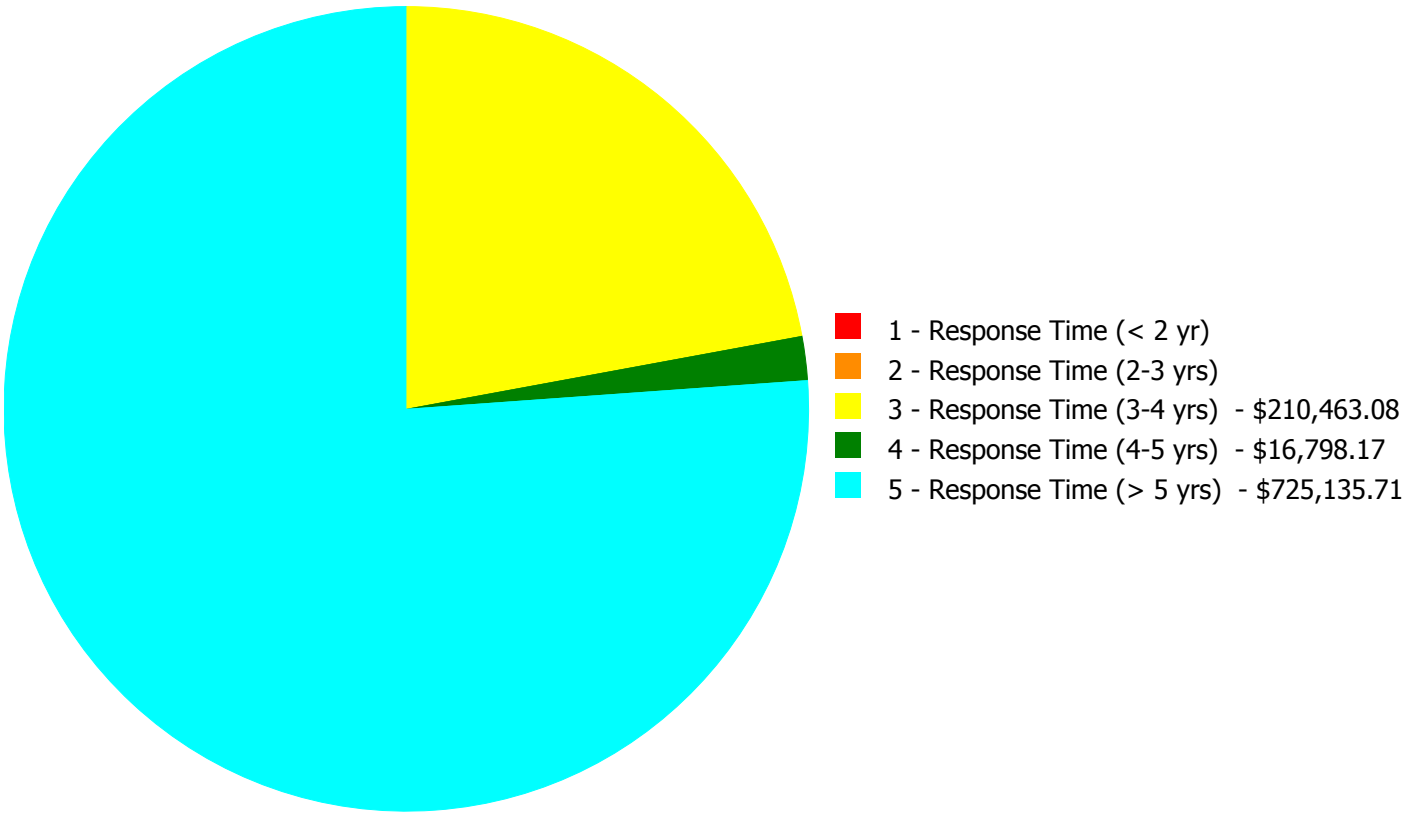
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart lists all current deficiencies associated with this facility.



Budget Estimate Total: $952,396.96

Deficiency Summary by Priority

The following chart shows the total repair costs broken down by priority. Assessors assigned deficiencies within eCOMET to one of the following priority categories:



Budget Estimate Total: $952,396.96

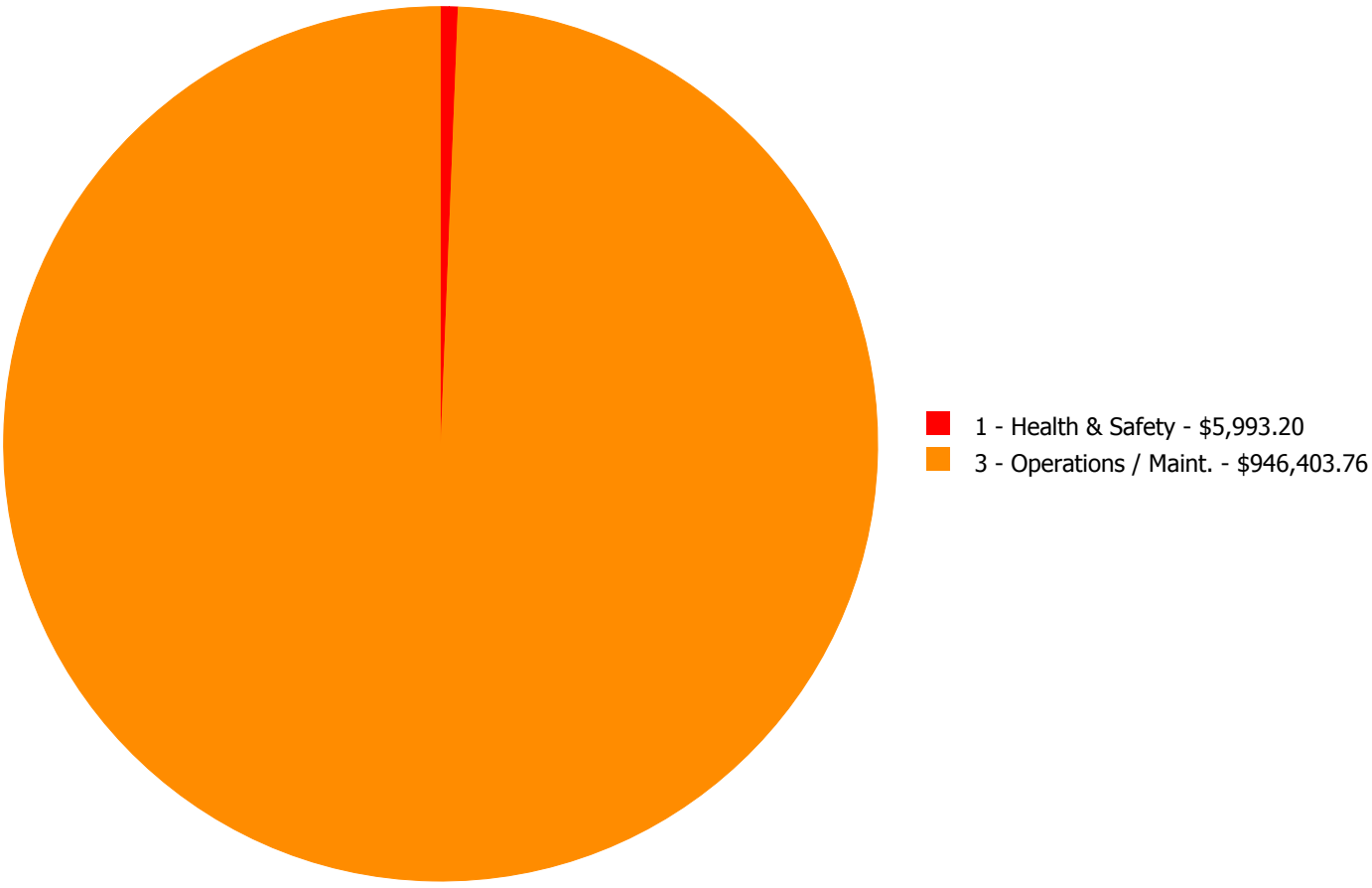
Deficiency By Priority Investment Table

The table below shows the current investment cost grouped by deficiency priority and building system.

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
G2020	Parking Lots	$0.00	$0.00	$210,463.08	$0.00	$0.00	$210,463.08
G2030	Pedestrian Paving	$0.00	$0.00	$0.00	$0.00	$719,142.51	$719,142.51
G2040	Site Development	$0.00	$0.00	$0.00	$16,798.17	$5,993.20	$22,791.37
	Total:	$0.00	$0.00	$210,463.08	$16,798.17	$725,135.71	$952,396.96

Deficiency Summary by Category

The following chart shows the total repair costs broken down by deficiency categories. Assessors assigned deficiencies to one of the following categories:



Budget Estimate Total: $952,396.96

Deficiency Details by Priority

The deficiency detail notes listed below provide additional information on identified deficiencies found within the facility.

Priority 3 - Response Time (3-4 yrs):

System: G2020 - Parking Lots

Location: Grounds/ Site

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 3 - Response Time (3-4 yrs)

Correction: Remove and replace concrete paving

Qty: 10,000.00

Unit of Measure: S.F.

Estimate: $210,463.08

Assessor Name: Wlodek Pieczonka

Date Created: 08/17/2015

Notes: Replace loading dock area pavement (heavy vehicular traffic)

Priority 4 - Response Time (4-5 yrs):

System: G2040 - Site Development

Location: Grounds/ Site

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 4 - Response Time (4-5 yrs)

Correction: Replace chain link fence - 8' high

Qty: 150.00

Unit of Measure: L.F.

Estimate: $16,798.17

Assessor Name: Wlodek Pieczonka

Date Created: 08/17/2015

Notes: Replace original chain link fence and security gate

Priority 5 - Response Time (> 5 yrs):

System: G2030 - Pedestrian Paving

Location: Grounds/ Site

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and replace concrete sidewalk or concrete paving - 4" concrete thickness

Qty: 50,000.00

Unit of Measure: S.F.

Estimate: $719,142.51

Assessor Name: Wlodek Pieczonka

Date Created: 08/17/2015

Notes: Resurface playground paving.

System: G2040 - Site Development

Location: Grounds/ Site

Distress: Security Issue

Category: 1 - Health & Safety

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and replace chain link gate - 8' high

Qty: 1.00

Unit of Measure: Ea.

Estimate: $5,993.20

Assessor Name: Craig Anding

Date Created: 08/17/2015

Notes: Replace original chain link fence and security gate

Equipment Inventory

The following table represents the inventory details of the inventory found in the building, which fall under the following subsystems:

No data found for this asset

Glossary

ABMA	American Boiler Manufacturers Association http://www.abma.com/
ACEEE	American Council for an Energy-Efficient Economy
ACGIH	American Council of Governmental and Industrial Hygienists
AEE	Association of Energy Engineers
AFD	Adjustable Frequency Drive
AFTC	After Tax Cash Flow
AGA	American Gas Association
AHU	Air Handling Unit
Amp	Ampere
ANSI	American National Standards Institute
ARI	Air Conditioning and Refrigeration Institute
ASD	Adjustable Speed Drive
ASHRAE	American Society of Heating Refrigerating and Air-Conditioning Engineers Inc.
ASME	American Society of Mechanical Engineers
Assessment	Visual survey of a facility to determine its condition. It involves looking at the age of systems reviewing information from local sources and visual evidence of potential problems to assign a condition rating. It does not include destructive testing of materials or testing of systems or equipment for functionality.
ATS	After Tax Savings
AW	Annual worth
BACNET	Building Automation Control Network
BAS	Building Automation System
BCR	Benefit Cost Ratio
BEP	Business Energy Professional (AEE)
BF	Ballast Factor
BHP	Boiler Horsepower (boilers)
BHP	Brake Horsepower (motors)
BLCC	Building Life Cycle Cost analysis program (FEMP)
BOCA	Building Officials and Code Administrators
BTCF	Before Tax Cash Flow

BTS	Before Tax Savings
Btu	British thermal unit
Building Addition	An area space or component of a building added to a building after the original building's year built date.
CAA	Clean Air Act
CAAA-90	Clean Air Act Amendments of 1990
CABO	Council of American Building Officials
CAC	Conventional Air Conditioning
CADDET	Center for the Analysis and Dissemination of Demonstrated Energy Technologies
Calculated Next Renewal	The year a system or element would be expected to expire based solely on the date it was installed and the expected useful lifetime for that kind of system.
Capital Renewal	Capital renewal is condition work (excluding suitability and energy audit work) that includes the replacement of building systems or elements (as they become obsolete or beyond their useful life) not normally included in an annual operating budget. Calculated next renewal The year a system or element would be expected to expire based solely on the date it was installed and the expected useful lifetime for that kind of system. Next renewal The assessor adjusted expected useful life of a system or element based on on-site inspection.
CDD	Cooling Degree Days
CDGP	Certified Distributed Generation Professional
CEC	California Energy Commission
CEM	Certified Energy Manager
CEP	Certified Energy Procurement Professional
CFC	Chlorofluorocarbon
CFD	Cash Flow Diagram
CFL	Compact Fluorescent Light
CFM cfm	Cubic Feet per Minute
CHP	Combined Heat and Power (a.k.a. cogeneration)
CHW	Chilled Water
Condition	Condition refers to the state of physical fitness or readiness of a facility system or system element for its intended use.
COP	Coefficient of Performance
Cp	Heat Capacity of Material
CPUC	California Public Utility Commission
CRI	Color Rendering Index
CRT	Cathode Ray Tube VDT HMI

CTC	Competitive Transition Charge
Cu	Coefficient of Utilization
Current Replacement Value (CRV)	CRV represents the hypothetical total cost of rebuilding or replacing an existing facility in current dollars to its optimal condition (excluding auxiliary facilities) under current codes and construction standards.
Cv	Value Coefficient
CWS	Chilled Water System
D d	Distance (usually feet)
DB	Dry Bulb
DCV	Demand Control Ventilation
DD	Degree Day
DDB	Double Declining Balance
DDC	Direct Digital Controls
Deferred maintenance	Deferred maintenance is condition work (excluding suitability and energy audit needs) deferred on a planned or unplanned basis to a future budget cycle or postponed until funds are available.
Deficiency	A deficiency is a repair item that is damaged missing inadequate or insufficient for an intended purpose.
Delta	Difference
Delta P	Pressure Difference
Delta T	Temperature Difference
DG	Distributed Generation
DOE	Department of Energy
DP	Dew Point
DR	Demand Response
DX	Direct Expansion Air Conditioner
EA	Energy Audit
EBITDA	Earnings before Interest Taxes Depreciation and Amortization
ECI	Energy Cost Index
ECM	Energy Conservation Measure
ECO	Energy Conservation Opportunity
ECPA	Energy Conservation and Production Act
ECR	Energy Conservation Recommendation
ECS	Energy Control System

EER	Energy Efficiency Ratio
EERE	Energy Efficiency and Renewable Energy division of US DOE
EIA	Energy Information Agency
EIS	Energy Information System
EMCS	Energy Management Computer System
EMO	Energy Management Opportunity
EMP	Energy Management Project
EMR	Energy Management Recommendation
EMS	Energy Management System
Energy Utilization Index (EUI)	EUI is the measure of total energy consumed in the cooling or heating of a building in a period expressed as British thermal unit (BTU) per (cooled or heated) gross square foot.
EO	Executive Order
EPA	Environmental Protection Agency
EPACT	Energy Policy Act of 1992
EPCA	Energy Production and Conservation Act of 1975
EPRI	Electric Power Research Institute
EREN	Efficiency and Renewable Energy (Division of USDOE)
ERV	Energy Recovery Ventilator
ESCO	Energy Service Company
ESPC	Energy Savings Performance Contract
EUI	Energy Use Index
EWG	Exempt Wholesale Generators
Extended Facility Condition Index (EFCI)	EFCI is calculated as the condition needs for the current year plus facility system renewal needs going out to a set time in the future divided by Current Replacement Value.
f	Frequency
F	Fahrenheit
Facility	A facility refers to site(s) building(s) or building addition(s) or combinations thereof that provide a particular service.
Facility Condition Assessment (FCA)	FCA is a process for evaluating the condition of buildings and facilities for programming and budgetary purposes through an on site inspection and evaluation process.
Facility Condition Index (FCI)	FCI is an industry-standard measurement of a facility's condition that is the ratio of the cost to correct a facility's deficiencies to the Current Replacement Value of the facilities. The higher the FCI the poorer the condition of a facility. After an FCI is established for all buildings within a portfolio a building's condition can be ranked relative to other buildings. The FCI may also represent the condition of a portfolio based on the cumulative FCIs of the portfolio's facilities.

FC	Footcandle
FCA	Fuel Cost Adjustment
FEMIA	Federal Energy Management Improvement Act of 1988
FEMP	Federal Energy Management Program
FERC	Federal Energy Regulatory Commission
FESR	Fuel Energy Savings Ratio
FLA	Full Load Amps
FLF	Facility Load Factor (usually monthly)
FLRPM	Full Load Revolutions per Minute
FMS	Facility Management System
FPM fpm	Feet per Minute (velocity)
FSEC	Florida Solar Energy Center
Ft	Foot
GPM gpm	Gallons per Minute
GRI	Gas Research Institute
Gross Square Feet (GSF)	The size of the enclosed floor space of a building in square feet measured to the outside face of the enclosing wall.
GUI	Graphical User Interface
H h	Enthalpy Btu/lb
HCFC	Hydrochlorofluorocarbons
HDD	Heating Degree days
HFC	Hydrofluorocarbons
HHV	Higher Heating Value
HID	High Intensity Discharge (lamp)
HMI	Human Machine Interface
HMMI	Human Man Machine Interface
HO	High Output (lamp)
HP Hp hp	Horsepower
HPS	High Pressure Sodium (lamp)
HR	Humidity Ratio
Hr hr	Hour

HRU	Heat Recovery Unit
HVAC	Heating Ventilation and Air-Conditioning
Hz	Hertz
I	Intensity (lumen output of lamp)
I i	Interest rate or Discount rate
IAQ	Indoor Air Quality
ICA	International Cogeneration Alliance
ICBO	International Conference of Buildings Officials
ICC	International Code Council
ICP	Institutional Conservation Program
IECC	International Energy Conservation Code
IEEE	Institute of Electrical and Electronic Engineers
IESNA	Illuminating Engineering Society of North America
Install year	The year a building or system was built or the most recent major renovation date (where a minimum of 70 of the system?s Current Replacement Value (CRV) was replaced).
IRP	Integrated Resource Planning
IRR	Internal Rate of Return
ISO	Independent System Operator
ITA	Independent Tariff Administrator
k	Kilo multiple of thousands in SI system
K	Kelvins (color temperature of lamp)
K k	Thermal Conductivity of Material
KVA	Kilovolt Ampere
KVAR	Kilovolt Ampere Reactive
kW	kiloWatt
kWh	kiloWatt hour
L	Length (usually feet)
LCC	Life Cycle Costing
LDC	Local Distribution Company
LEED	Leadership in Energy and Environmental Design
LEED EB	LEED for Existing Buildings

LEED NC	LEED for new construction
LF	Load Factor
LHV	Lower Heating Value
Life cycle	The period of time that a building or site system or element can be expected to adequately serve its intended function.
LPS	Low Pressure Sodium (lamp)
Lu	Lumen Output of a Lamp or Fixture
M	Mega multiple of millions in SI system
M&V	Measurement and Verification
MACRS	Modified Accelerated Cost Recovery System
MARR	Minimum Attractive Rate of Return
Mbtu	Thousand Btu
MCF	Thousand Cubic Feet (usually of gas)
MEC	Model Energy Code
Mm	Multiple of Thousands in I/P System
MMBtu	Million Btu
MMCS	Maintenance Management Computer System
MMI	Man Machine Interface
MMS	Maintenance Management System
MSE 2000	Management System for Energy 2000 (ANSI Georgia Tech Univ)
MW	MegaWatt
MWH MWh	MegaWatt hour
NAAQS	National Ambient Air Quality Standards
NAESCO	National Association of Energy Service Companies
NAIMA	North American Insulation Manufacturers Association
NEA	National Energy Act of 1978
NECPA	National Energy Conservation Policy Act
NEMA	National Electrical Manufacturer's Association
NERC	North American Electric Reliability Council
Next Renewal	The Next Renewal date is an override of the 'Calculated Next Renewal' date and is based upon the assessor?s visual inspection.

NFPA	National Fire Protection Association
NGPA	National Gas Policy Act of 1978
NLRPM	No Load Revolutions per Minute (speed)
Nn	Equipment or Project lifetime in economic analysis
NOPR	Notice of Proposed Rule Making from FERC
NOx	Nitrogen Oxide Compounds
NPV	Net present value in economic analysis
NREL	National Renewable Energy Laboratory
NUG	Non-Utility Generator
O&M	Operation and Maintenance
OA	Outside Air
ODP	Ozone Depletion Potential
OPAC	Off-Peak Air Conditioning
P	Present value in economic analysis
PBR	Performance Based Rates
PEA	Preliminary Energy Audit
PF	Power Factor
PID	Proportional plus integral plus derivative (control system)
PM	Portfolio Manager in Energy Star rating system
PM	Preventive Maintenance
PoolCo	Power Pool Company or Organization
POU	Point of Use
PQ	Power Quality
PSC	Public Service Commission
PSIA psia	Pounds per square inch absolute (pressure)
PSIG psig	Pounds per square inch gauge (pressure)
PUC	Public Utility Commission
PUHCA	Public Utilities Holding Company Act of 1935
PURPA	Public Utilities Regulatory Policies of 1978
PV	Photovotaic system

PV	Present Value
PW	Present Worth
PX	Power Exchange
q	Rate of heat flow in Btu per hour
Q	Heat load due to conduction using degree days
QF	Qualifying Facility
R	Electrical resistance
R	Thermal Resistance
RC	Remote controller
RCR	Room Cavity Ratio
RCRA	Resource Conservation and Recovery Act
Remaining Service Life (RSL)	RSL is the number of years service remaining for a system or equipment item. It is automatically calculated based on the difference between the current year and the 'Calculated Next Renewal' date or the 'Next Renewal' date whichever one is the later date.
Remaining Service Life Index (RSLI)	RSLI is defined as a percentage ratio of the remaining service life of a system. It usually ranges from 0 to 100
REMR	Repair Evaluation Maintenance Rehabilitation (REMR) is a scale used to objectively rank systems based on their condition
Renewal Schedule	A timeline that provides the items that need repair the year in which the repair is needed and the estimated price of the renewal.
RH	Relative Humidity
RLA	Running Load Amps
RMS	Root Mean Square
RO	Reverse Osmosis
ROI	Return on Investment
RPM	Revolutions Per Minute
RTG	Regional Transmission Group
RTO	Regional Transmission Organization
RTP	Real Time Pricing
SBCCI	Southern Building Code Congress International
SC	Scheduling Coordinator
SC	Shading Coefficient
SCADA	Supervisory Control and Data Acquisition Systems

SEER	Seasonal Energy Efficiency Ratio
SHR	Sensible Heat Ratio
Site	The grounds and utilities roadways landscaping fencing and other typical land improvements needed to support the facility.
Soft Cost	An expense item that is not considered direct construction cost. Soft cost includes architectural engineering financing legal fees and other pre-and-post construction expenses.
SOx	Sulfur Oxide Compounds
SP	Static Pressure
SP SPB	Simple Payback
SPP	Simple Payback Period
SPP	Small Power Producers
STR	Stack Temperature Rise
SV	Specific Volume
System	System refers to building and related site work elements as described by ASTM Uniformat II Classification for Building Elements (E1557-97) a format for classifying major facility elements common to most buildings. Elements usually perform a given function regardless of the design specification construction method or materials used. See also Uniformat II.
T	Temperature
T	Tubular (lamps)
TAA	Technical Assistance Audit
TCP/IP	Transmission Control Protocol/Internet Protocol
TES	Thermal Energy Storage
THD	Total Harmonic Distortion
TOD	Time of Day
TOU	Time of Use
TQM	Total Quality Management
TransCo	Transmission Company
U	Thermal Conductance
UDC	Utility Distribution Company
UL	Underwriters Laboratories
UNIFORMAT II	The ASTM UNIFORMAT II Classification for Building Elements (E1557-97) a format for classifying major facility components common to most buildings.
USGBC	US Green Building Council
v	Specific Volume

V	Volts Voltage
V	Volume
VAV	Variable Air Volume
VDT	Video Display Terminal
VFD	Variable Frequency Drive
VHO	Very High Output
VSD	Variable Speed Drive
W	Watts
W	Width
WB	Wet bulb
WH Wh	Watt Hours
Year built	The year that a building or addition was originally built based on substantial completion or occupancy.
Z	Electrical Impedance